



# NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

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## JOINT APPLIED PROJECT

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### An Identification of Interpersonal Skills for Building Army Civilian Leaders

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**September 2006**

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# **AN IDENTIFICATION OF INTERPERSONAL SKILLS FOR BUILDING ARMY CIVILIAN LEADERS**

## **ABSTRACT**

This Joint Applied Project identifies effective interpersonal skills for four selected leadership levels in the Army civilian workforce. This project expands the findings from the 2003 Army Training and Leadership Development Panel, Communication Task Force initiative, which identified a perceived gap in interpersonal skills exhibited by Army civilian leaders. Thirty-eight (38) Army civilian managers from four leadership levels completed questionnaires and participated in face-to-face interviews describing the important interpersonal skills that were necessary to successfully perform in their jobs. This study shows which interpersonal skills were considered most important at the different levels. This study further shows that current education is lacking for civilian leaders to develop these important skills. Recommendations for improving career development and leadership training are offered that would enable the Army to “grow” better, more effective, Army civilian leaders.

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## TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>EXECUTIVE SUMMARY .....</b>                                   | <b>1</b>  |
| <b>I. INTRODUCTION.....</b>                                      | <b>3</b>  |
| A. BACKGROUND .....  | 3         |
| B. PURPOSE OF THE STUDY .....                                    | 3         |
| C. RESEARCH QUESTIONS (RQ) .....                                 | 4         |
| D. SCOPE AND LIMITATIONS .....                                   | 4         |
| E. METHODOLOGY .....   | 5         |
| F. ORGANIZATION .....  | 6         |
| <b>II. LITERATURE AND STUDY METHODOLOGY.....</b>                 | <b>7</b>  |
| A. OVERVIEW .....  | 7         |
| 1. 2003 Army Training and Leader Development Panel Report..      | 7         |
| 2. <i>The Leadership Pipeline</i> .....                          | 10        |
| B. STUDY METHODOLOGY .....                                       | 13        |
| 1. Overview .....  | 13        |
| 2. Establishing Management/Leadership Levels.....                | 14        |
| 3. Study Participants.....                                       | 17        |
| 4. Survey Questionnaire (SQ) .....                               | 18        |
| 5. Participant Interviews (IQ).....                              | 24        |
| 6. Compilation and Presentation of Data.....                     | 26        |
| 7. Analysis of Data.....   | 28        |
| <b>III. STUDY DATA.....</b>                                      | <b>31</b> |
| A. DEMOGRAPHICS (SQ-1 THROUGH SQ- 6, IQ-1) .....                 | 31        |
| 1. Job Titles and Primary Responsibilities (SQ-1 and IQ-1) ..... | 31        |
| 2. Length of Service (SQ-2) .....                                | 31        |
| 3. Direct Supervision of Employees (SQ-3).....                   | 32        |
| 4. Collocation with Supervised Employees (SQ-4).....             | 33        |
| 5. Job Functions of Supervised Employees (SQ-5) .....            | 33        |
| 6. Indirect Supervision/Management of Employees (SQ-6).....      | 34        |
| B. COMMUNICATION HABITS (SQ-9 THROUGH SQ-12).....                | 36        |
| 1. Routine Communication (SQ-9) .....                            | 36        |
| 2. Choice of Communication Media (SQ-10).....                    | 37        |
| 3. Influences on Choice of Communication Media (SQ-11).....      | 38        |
| 4. Challenging Communication Media (SQ-12) .....                 | 39        |

|            |  |            |
|------------|--|------------|
| <b>C.</b>  | <b>INTERPERSONAL SKILLS (SQ-8, IQ-2 THROUGH IQ-5) .....</b>  | <b>39</b>  |
| 1.         | Relative Importance of Interpersonal Skills (SQ-8) .....   | 40         |
| 2.         | Required Interpersonal Skills (IQ-2, 4, and 5).....  | 42         |
| 3.         | Challenging Interpersonal Skills (IQ-3) .....  | 46         |
| <b>D.</b>  | <b>LEADERSHIP (SQ-7) .....</b>   | <b>50</b>  |
| 1.         | Factors Contributing to Effective Leadership (SQ-7) .....  | 50         |
| <b>E.</b>  | <b>FORMAL LEADERSHIP TRAINING (SQ-13, IQ-6 AND IQ-7) ....</b>  | <b>51</b>  |
| 1.         | Leadership Development Training (SQ-13) .....  | 51         |
| 2.         | Focus on Interpersonal Skills (IQ-6).....  | 53         |
| 3.         | Improving Interpersonal Skills Development (IQ-7).....   | 54         |
| <b>IV.</b> | <b>ANALYSIS OF DATA .....</b>  | <b>59</b>  |
| <b>A.</b>  | <b>DEMOGRAPHICS .....</b>  | <b>59</b>  |
| <b>B.</b>  | <b>COMMUNICATION HABITS.....</b>   | <b>61</b>  |
| 1.         | Routine Communication .....  | 61         |
| 2.         | Choice of Communication Media .....  | 62         |
| 3.         | Influences on Choice of Communication Media .....  | 63         |
| 4.         | Challenging Communication Media .....  | 64         |
| <b>C.</b>  | <b>INTERPERSONAL SKILLS.....</b>   | <b>65</b>  |
| 1.         | Survey and Interview Responses .....   | 65         |
| 2.         | Interpersonal Skills for the Level 2 Manager.....  | 67         |
| 3.         | Interpersonal Skills for the Level 3 Manager.....  | 73         |
| 4.         | Interpersonal Skills for the Level 4 Manager.....  | 81         |
| 5.         | Interpersonal Skills for the Level 5 Manager.....  | 88         |
| <b>D.</b>  | <b>LEADERSHIP .....</b>  | <b>95</b>  |
| 1.         | Leadership Factors - Overview.....   | 95         |
| 2.         | Leadership Factors – Quantitative Assessment .....   | 95         |
| 3.         | Leadership Factors – Qualitative Assessment.....   | 97         |
| <b>E.</b>  | <b>FORMAL TRAINING .....</b>   | <b>104</b> |
| 1.         | Army Civilian Leader Development Core Curriculum -<br>Mandatory, Recommended, and Other Training .....   | 104        |
| 2.         | Development of Interpersonal Skills .....  | 107        |
| 3.         | Improving Leadership and Interpersonal Skills.....   | 107        |
| <b>V.</b>  | <b>FINDINGS AND CONCLUSIONS .....</b>  | <b>111</b> |
| <b>A.</b>  | <b>INTERPERSONAL SKILLS REQUIRED (RQ-1<br/>THROUGH RQ-3) .....</b>                                       | <b>111</b> |
| 1.         | What Do Studies Show About the Level of Interpersonal Skills<br>Among Army Civilian Leaders? (RQ-1)..... | 111        |
| 2.         | What Interpersonal Skills are Required for Various Levels of<br>Army Civilian Leaders? (RQ-2) .....      | 112        |

|   |            |
|---|------------|
| 3. How Do These Skills Differ Among the Various Levels? (RQ-3).....             | 115        |
| <b>B. DEVELOPMENT OF INTERPERSONAL SKILLS (RQ-4 THROUGH RQ-6) .....</b>         | <b>117</b> |
| 1. Where Do Leaders Develop Their Interpersonal Skills? (RQ-4).....             | 117        |
| 2. Are Interpersonal Skills Adequately Developed in the U.S. Army? (RQ-5) ..... | 118        |
| 3. What Might Organizations Do to Better Develop These Skills? (RQ-6).....      | 119        |
| <b>VI. RECOMMENDATIONS.....</b>   | <b>121</b> |
| A. RECOMMENDATIONS FOR ARMY ACTION.....   | 121        |
| B. RECOMMENDATIONS FOR FURTHER RESEARCH .....                                   | 122        |
| <b>APPENDIX A. SURVEY QUESTIONS.....</b>  | <b>125</b> |
| <b>APPENDIX B. INTERVIEW QUESTIONS .....</b>                                    | <b>129</b> |
| <b>APPENDIX C. SUPPLEMENTAL DATA AND DISCUSSION .....</b>                       | <b>131</b> |
| A. DEMOGRAPHICS (SQ-1 THROUGH SQ-6, AND IQ-1) .....                             | 131        |
| 1. Job Titles (SQ-1) .....  | 131        |
| 2. Length of Service (SQ-2) .....   | 132        |
| 3. Other Participant Demographics (SQ-3 through SQ-6).....                      | 133        |
| B. COMMUNICATION HABITS (SQ-9) .....  | 138        |
| C. CHOICE OF COMMUNICATION MEDIA (SQ-10).....                                   | 143        |
| D. INFLUENCES ON CHOICE OF COMMUNICATION MEDIA (SQ-11) .....                    | 147        |
| E. RELATIVE IMPORTANCE OF INTERPERSONAL SKILLS (SQ-8).....                      | 150        |
| F. FACTORS CONTRIBUTING TO EFFECTIVE LEADERSHIP (SQ-7) .....                    | 156        |
| <b>LIST OF REFERENCES.....</b>  | <b>161</b> |
| <b>INITIAL DISTRIBUTION LIST .....</b>  | <b>163</b> |

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## **LIST OF FIGURES**

|            |   |     |
|------------|---|-----|
| Figure 2-1 | Army Civilian Leader Development Core Curriculum .....  | 23  |
| Figure 4-1 | Comparison of Civilian Leader Development Courses ..... | 106 |

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## LIST OF TABLES

|             |  |     |
|-------------|--|-----|
| Table 2-1   | Seven Levels of Leadership .....   | 12  |
| Table 2-2   | Comparable Management/Leadership Positions.....                                  | 15  |
| Table 2-3   | Groupings of Survey and Interview Questions .....                                | 27  |
| Table 3-1   | SQ-2 – Length of Service in Current Position .....                               | 32  |
| Table 3-2   | SQ-3 – Direct Supervision of Employees.....                                      | 32  |
| Table 3-3   | SQ-4 – Collocation with Supervised Employees.....                                | 33  |
| Table 3-4   | SQ-5 – Job Functions of Supervised Employees.....                                | 34  |
| Table 3-5a  | SQ-6 – Indirect Management of Civilian Employees.....                            | 34  |
| Table 3-5b  | SQ-6 – Indirect Management of Contractor Employees.....                          | 35  |
| Table 3-5c  | SQ-6 – Indirect Management of Other Employees.....                               | 35  |
| Table 3-6   | SQ-9 – Routine Communication with Individuals.....                               | 36  |
| Table 3-7   | SQ-10 – Choice of Communication Media .....                                      | 37  |
| Table 3-8   | SQ-11 – Factors Influencing Choice of Communication Media .....                  | 38  |
| Table 3-9   | SQ-12 – Most Challenging Communication Medium .....                              | 39  |
| Table 3-10a | SQ-8 – Relative Importance of Interpersonal Skills .....                         | 40  |
| Table 3-10b | SQ-8 – Groupings of Interpersonal Skills.....                                    | 42  |
| Table 3-11  | IQ-3 – Participants Challenging Situations and Needed Interpersonal Skills ..... | 49  |
| Table 3-12  | SQ-7 – Factors Contributing to Effective Leadership .....                        | 50  |
| Table 3-13  | SQ-13 – Formal Leadership Training Completed .....                               | 52  |
| Table 4-1   | SQ-8 – Aggregated Responses.....   | 66  |
| Table 4-2   | SQ-8 – Responses for Level 2 .....   | 70  |
| Table 4-3   | IQ-2, IQ-4 and IQ-5 – Responses for Level 2 .....                                | 72  |
| Table 4-4   | SQ-8 – Responses for Level 3 .....   | 77  |
| Table 4-5   | IQ-2, IQ-4 and IQ-5 – Responses for Level 3 .....                                | 80  |
| Table 4-6   | SQ-8 – Responses for Level 4 .....   | 84  |
| Table 4-7   | IQ-2, IQ-4 and IQ-5 – Responses for Level 4 .....                                | 87  |
| Table 4-8   | SQ-8 – Responses for Level 5 .....   | 91  |
| Table 4-9   | IQ-2, IQ-4 and IQ-5 – Responses for Level 5 .....                                | 94  |
| Table 4-10  | SQ-7 – Relative Ranking by Level and Aggregated.....                             | 96  |
| Table C-1   | Participants' Job Titles by Level.....   | 132 |
| Table C-2   | Level 2 Participant Demographic Profile (SQ-2 through SQ-6) .....                | 134 |
| Table C-3   | Level 3 Participant Demographic Profile (SQ-2 through SQ-6) .....                | 135 |
| Table C-4   | Level 4 Participant Demographic Profile (SQ-2 through SQ-6) .....                | 136 |
| Table C-5   | Level 5 Participant Demographic Profile (SQ-2 through SQ-6) .....                | 137 |
| Table C-6   | SQ-9 – Routine Communication with Individuals (Aggregated) .....                 | 139 |
| Table C-7   | SQ-9 – Routine Communication with Individuals (Level 2).....                     | 140 |

|            |   |     |
|------------|---|-----|
| Table C-8  | SQ-9 – Routine Communication with Individuals (Level 3).....                    | 141 |
| Table C-9  | SQ-9 – Routine Communication with Individuals (Level 4).....                    | 142 |
| Table C-10 | SQ-9 – Routine Communication with Individuals (Level 5).....                    | 143 |
| Table C-11 | SQ-10 – Choice of Communication Media (Aggregated) .....                        | 144 |
| Table C-12 | SQ-10 – Choice of Communication Media (Level 2).....                            | 145 |
| Table C-13 | SQ-10 – Choice of Communication Media (Level 3).....                            | 145 |
| Table C-14 | SQ-10 – Choice of Communication Media (Level 4).....                            | 146 |
| Table C-15 | SQ-10 – Choice of Communication Media (Level 5).....                            | 146 |
| Table C-16 | SQ-11 – Factors Influencing Choice of Communication Media<br>(Aggregated) ..... | 147 |
| Table C-17 | SQ-11 – Factors Influencing Choice of Communication Media<br>(Level 2).....     | 148 |
| Table C-18 | SQ-11 – Factors Influencing Choice of Communication Media<br>(Level 3).....     | 149 |
| Table C-19 | SQ-11 – Factors Influencing Choice of Communication Media<br>(Level 4).....     | 150 |
| Table C-20 | SQ-11 – Factors Influencing Choice of Communication Media<br>(Level 5).....     | 150 |
| Table C-21 | SQ-8 – Relative Importance of Interpersonal Skills (Aggregated).....            | 152 |
| Table C-22 | SQ-8 – Relative Importance of Interpersonal Skills (Level 2) .....              | 153 |
| Table C-23 | SQ-8 – Relative Importance of Interpersonal Skills (Level 3) .....              | 154 |
| Table C-24 | SQ-8 – Relative Importance of Interpersonal Skills (Level 4) .....              | 155 |
| Table C-25 | SQ-8 – Relative Importance of Interpersonal Skills (Level 5) .....              | 156 |
| Table C-26 | SQ-7 – Factors Contributing to Effective Leadership (Aggregated) .....          | 157 |
| Table C-27 | SQ-7 – Factors Contributing to Effective Leadership (Level 2).....              | 158 |
| Table C-28 | SQ-7 – Factors Contributing to Effective Leadership (Level 3).....              | 159 |
| Table C-29 | SQ-7 – Factors Contributing to Effective Leadership (Level 4).....              | 160 |
| Table C-30 | SQ-7 – Factors Contributing to Effective Leadership (Level 5).....              | 160 |

## **LIST OF ACRONYMS AND ABBREVIATIONS**

|        |   |
|--------|---|
| AODC   | Action Officer Development Course             |
| ATLDP  | Army Training and Leader Development Panel    |
| CDG    | Competitive Development Group                 |
| CEO    | Chief Executive Officer                       |
| CES    | Civilian Education System                     |
| CPOL   | Civilian Personnel On-Line                    |
| DAWIA  | Defense Acquisition Workforce Improvement Act |
| DL     | Distributed Learning                          |
| DLAMP  | Defense Leadership and Management Program     |
| GAO    | General Accounting Office                     |
| GS     | General Schedule                              |
| ILDC   | Intern Leadership Development Course          |
| IQ     | Interview Question                            |
| LEAD   | Leadership Education and Development Course   |
| MBTI   | Myers-Briggs Type Indicator                   |
| MDC    | Manager Development Course                    |
| NSPS   | National Security Personnel System            |
| O      | Officer                                       |
| OLE    | Organizational Leadership for Executives      |
| OSD    | Office of the Secretary of Defense            |
| PME    | Personnel Management for Executives           |
| RDAP   | Regional Developmental Assignment Program     |
| RDEC   | Research, Development and Engineering Center  |
| RQ     | Research Question                             |
| SBLM   | Sustaining Base Leadership and Management     |
| SDC    | Supervisory Development Course                |
| SES    | Senior Executive Service                      |
| SQ     | Survey Question                               |
| TAPES  | Total Army Performance Evaluation System      |
| TRADOC | U.S. Army Training and Doctrine Command       |

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This Joint Applied Project was made possible by the willingness of the Army civilians who participated in this study by providing candid responses to the study questionnaire, and sharing their personal experiences, insights, and perspectives on communication and leadership during their interviews with study team members.

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## **EXECUTIVE SUMMARY**

In February 2003, the Army's Training and Leadership Development Panel (ATLDP) delivered a report, which identified key leadership requirements for current and future Army civilians. Based on data from more than 40,000 civilians, soldiers, and senior leaders, the ATLDP Phase IV Civilian Study Report identified four imperatives that were believed to maximize civilians' contributions to the Force, specifically; accountability, lifelong learning, Army culture, and interpersonal skills. Interpersonal skills was identified as the most important of the four imperatives in developing high performing civilian leaders, although, the Panel's report noted that Army civilians were perceived as least effective in this area than any other technical or conceptual skills.

The ATLDP found that the Army currently lacks a well-developed, systematic approach for developing its civilian leaders. The Army's ability to "grow" new leaders is further strained by limited training and career development opportunities for civilians. This situation is exacerbated by the fact that nearly 50 percent of the defense acquisition workforce in 2000 was eligible for retirement in 2005 (The Acquisition 2005 Task Force Final Report: Shaping the Civilian Acquisition Workforce of the Future, October 2000). The ATLDP recognized that the identification and development of interpersonal skills for current and future Army leaders must become a priority for the Army and the other Services.

This Joint Applied Project Report will seek to validate the findings of the ATDLP by targeting a group of 38 Army civilian leaders, whose current job is at one of the four most pivotal levels of management, and who have demonstrated mature interpersonal skills at their respective management level. The levels of civil service management that were considered as most pivotal for this study were defined and structured based on comparable private sector management levels described in the book, *The Leadership Pipeline*.

A study among this group of 38 civilian leaders was initiated, based on a selected literature review, and a combination of responses to a survey questionnaire and

subsequent interviews with study team members. Data gathered from the survey questionnaire and personal interviews were compiled, and grouped into five topic areas for analysis, specifically; demographics, communication habits, interpersonal skills, leadership, and formal training.

Based on the study findings, recommendations for improving career development and leadership training, with respect to developing the appropriate interpersonal skills necessary for successful career progression, are provided toward the ultimate goal of “growing” better, more effective Army civilian leaders. This Joint Applied Project also provides insights into highly productive interpersonal skills that can be translated into training opportunities, and performance objectives for developing Army civilians into recognized leaders.

## **I. INTRODUCTION**

### **A. BACKGROUND**

In February 2003, the Army's Training and Leadership Development Panel (ATLDP) delivered a report, which identified key leadership requirements for current and future Army civilians. Based on data from more than 40,000 civilians, soldiers, and senior leaders, the ATLDP Phase IV Civilian Study Report identified four imperatives that were believed to maximize civilians' contributions to the Force, specifically; accountability, lifelong learning, Army culture, and interpersonal skills. Interpersonal skills was identified as the most important of the four imperatives in developing high performing civilian leaders, although, the Panel's report noted that Army civilians were perceived as least effective in this area than any other technical or conceptual skills.

The ATLDP found that the Army currently lacks a well-developed, systematic approach for developing its civilian leaders. The Army's ability to "grow" new leaders is further strained by limited training and career development opportunities for civilians. This situation is exacerbated by the fact that nearly 50 percent of the defense acquisition workforce in 2000 was eligible for retirement in 2005 (The Acquisition 2005 Task Force Final Report: Shaping the Civilian Acquisition Workforce of the Future, October 2000). The ATLDP recognized that the identification and development of interpersonal skills for current and future Army leaders must become a priority for the Army and the other Services.

### **B. PURPOSE OF THE STUDY**

This Joint Applied Project expands on the ATLDP Report finding that identified a perceived gap in interpersonal skills exhibited by Army civilian leaders. In this report, the Joint Applied Project team will seek to validate the findings of the ATLDP by conducting a study among 38 Army civilian leaders, targeting individual leaders who have demonstrated mature interpersonal skills at their respective management levels. Based on participant responses to survey questionnaires and individual interviews,

critical interpersonal skills required for successful job performance will be identified for the four most pivotal management levels, where the development of interpersonal and leadership skills are viewed as the most critical to overall career development. In addition, the perceived adequacies and shortcomings of existing formal training available to Army civilian leaders for developing their interpersonal skills will be detailed.

Based on the findings from this study, recommendations for improving career development and leadership training, with respect to developing the appropriate interpersonal skills necessary for successful career progression, will be provided toward the ultimate goal of “growing” better, more effective Army civilian leaders.

### **C. RESEARCH QUESTIONS (RQ)**

The following six research questions will be answered from the data gathered and analyzed in this study:

***RQ-1. What do studies show about the level of interpersonal skills among Army civilian leaders?***

***RQ-2. What interpersonal skills are required for various levels of Army civilian leaders?***

***RQ-3. How do these skills differ among the various leadership levels?***

***RQ-4. Where do leaders develop their interpersonal skills?***

***RQ-5. Are interpersonal skills adequately developed in the U.S. Army?***

***RQ-6. What might the organization do to better develop these skills?***

### **D. SCOPE AND LIMITATIONS**

This study further develops the ATLD Report published in 2003 by focusing on the interpersonal skills of Army civilian leaders at the Branch Chief level through the Program Manager level. The Joint Applied Project team used *The Leadership Pipeline* to define comparable levels of leadership within the Department of the Army. Even with a

guideline such as *The Leadership Pipeline*, it is difficult to define the various level of leadership, since the Army is composed of numerous organizations with widely varied missions and responsibilities. For instance, the Director of one project office may be equivalent to the Division Chief of another project office. Army civilians working in functional organizations tend to be organized differently from acquisition project offices. For that reason, *The Leadership Pipeline* was used as a guide to delineate the technical and interpersonal skills required at various levels within the organization.

The team selected and interviewed candidates with demonstrated leadership abilities from acquisition organizations located at three major Army organizations: Aberdeen Proving Ground, Maryland; Fort Monmouth, New Jersey; and Redstone Arsenal, Alabama. Based on prior experience, the study team found that participants with demonstrated leadership ability provided responses that represented real world experiences.

## **E. METHODOLOGY**

The study is based on a selected literature review and a combination of survey data and responses to individual interview questions. This research drew on two major literature sources: the 2003 ATLDP Report and *The Leadership Pipeline*. The study team began with the ATLDP Report's conclusion that interpersonal skills are the most important dimension for developing high performing civilian leaders. *The Leadership Pipeline* was used to develop finer distinctions of interpersonal skills for the four selected leadership levels considered in this study, specifically; Branch Chief (level 2), Division Chief (level 3), Product Manager (level 4), and Program Manager (level 5).

The literature provided the foundation for the research questions. The study team developed the survey and interview questions to expand on the information provided in the ATLDP Report.

Study participants were selected based on leadership levels and their demonstration of leadership skills. Initially, 38 selected participants completed a questionnaire survey, which provided the study team with background information prior

to conducting one-on-one interviews. Through the responses to the survey and personal interviews, the study team compiled quantitative and qualitative data to form the conclusions and recommendations in this report.

## **F. ORGANIZATION**

This report is divided into six chapters. After the introduction, Chapter II provides an overview of the study, including the foundation for using the ATLD Report and *The Leadership Pipeline*. The study methodology is also provided in Chapter II. The quantitative and qualitative data gathered in the course of surveys and interviews is presented in Chapter III. Analysis of the study data is provided in Chapter IV. Findings and conclusions are provided in Chapter V. Recommendations for follow-on actions and research are provided in Chapter VI.

## **II. LITERATURE AND STUDY METHODOLOGY**

### **A. OVERVIEW**

The primary references for this study were the 2003 Army Training and Leader Development Panel (ATLDP) Phase IV Civilian Study and *The Leadership Pipeline*, published in 2001. These sources, and their relationship to this study, are described in the following sections.

#### **1. 2003 Army Training and Leader Development Panel Report**

In June 2000, the Army Chief of Staff chartered the ATLDP to study and research the leadership development skills required of military and civilian leaders. In February 2003, the ATLDP delivered its final report, the Phase IV Civilian Study, identifying key leadership requirements for current and future Army civilians. Over 40,000 Army civilians and soldiers, including Senior Executive Service (SES) employees and General Officers, participated in the Phase IV Civilian Study, through comprehensive written surveys, on-line surveys, focus group sessions, and personal interviews.

Based on the collected data, the ATLDP Report defined four major imperatives that the panel believed would maximize the Army civilians' contributions to the armed forces: (1) accountability; (2) lifelong learning; (3) interpersonal skills; and (4) Army culture. Within those four major imperatives, the report detailed 40 specific and 12 general recommendations. The following is a summary of those recommendations:

**Accountability.** Make developing Army civilians a high priority.

Integrate personal, professional, and job performance together.

Implement the study's recommendations and evaluate their effectiveness.

**Lifelong Learning.** Make lifelong learning the standard for civilian employees. Revamp individual career management with "gates" for career development and progression. Build an all-encompassing Army Education System.

**Interpersonal Skills.** Make the development of interpersonal skills a priority among both civilian and military leaders. Acknowledge

that interpersonal skills are pivotal to leader competence. Teach them to Army civilians. Select Army civilian leaders that exhibit good interpersonal skills.

**Army Culture.** Integrate Army civilians fully into the Army culture. Embrace Army civilians' commitment to the Army's mission, but recognize the differences between civilians and objective force soldiers.

**The Bottom Line.** As stated in the ATLD Report, "This study revealed that the Army has no well-developed and executed, integrated, systemic approach for civilian leader development. Supervisors are less effective in interpersonal skills than in technical or conceptual skills. Army civilians are frustrated by the lack of advancement opportunities. Many Army civilians are unaware of leader development and training opportunities. In short, the Army is not adequately developing Army civilian leaders for the present or the future."

Of the four imperatives, interpersonal skills were viewed as the most important dimension for developing high performing civilian leaders. Interpersonal skills included listening, oral and written communication, and interacting with others. This area was deemed the most important; however, Army civilians were typically perceived as being less effective in their interpersonal skills than in any other technical or conceptual skills. The recommendation put forth by the report for the interpersonal skills imperative was to "acknowledge that interpersonal skills are pivotal to leader competence, teach them to Army civilians, and select Army civilian leaders that exhibit them."

Accountability was seen as the second most important imperative in developing Army civilian leaders. The report noted that many studies, aimed at improving management and leadership in the Government, have been done in the past. The report suggested that the fact that these deficiencies still exist, after several attempts to fix them, was indicative of a lack of accountability in the development of Army civilian leaders. The recommendation for the accountability imperative was to "make developing Army civilians a high priority, tie personal and professional and job performance together, accomplish this study's recommendations, and evaluate their effectiveness."

Lifelong learning was cited as being the essential foundation for transforming leader development in a transforming Army. The thrust of lifelong learning was to have an organization that learns fast and is readily adaptable to a changing environment. The challenge of lifelong learning was motivating individuals to pursue training, learning, and educational opportunities toward their ongoing career development.

Of particular interest is the imperative of interpersonal skills. This imperative, in addition to the Army's commitment to interpersonal skills development, will be explored in additional detail as part of this Joint Applied Project study.

**Specific Findings.** Interpersonal skills refer to communication techniques used to persuade or influence others. An effective leader will use a wide variety of interpersonal skills to persuade, motivate, inspire, develop, and maintain constructive working relationships with others. Interpersonal skills included listening, writing, public speaking, team building, and interacting with others. The ATLD Report noted that actions of the leaders have a significant effect on the employees' perception of the organization's climate and culture.

Feedback from the participants in the ATLD study indicated that interpersonal skills were the most important leadership dimension for developing current and future leaders, both civilian and military. However, the report indicated that Army civilian leaders were weak in this dimension, as compared to their strength in technical competencies.

The ATLD study participants identified effective communication skills and team building as the most important elements of interpersonal skills. Further, participants expressed their belief that communication skills and dealing with other people could be enhanced through leadership training. The report indicated that the study participants thought the Army should evaluate leadership potential before hiring or promoting individuals into leadership positions. There was a general consensus that new supervisors need leader development training before beginning their jobs, and that the training should be available to all individuals who are interested.

The report suggested three specific actions for addressing their recommendation to make developing interpersonal skills a priority. First, increase the coverage of interpersonal skills in progressive and sequential leadership training at all levels. Second, make effective interpersonal skills a criterion for performance evaluation for individuals in the leadership track. Third, make interpersonal skills a selection criterion for leadership positions.

The report found that effective interpersonal skills were crucial to the organization, because employee loyalty, job satisfaction, and productivity were all determined, to a great extent, by employees' relationships with their immediate supervisors. The report noted that supervisors were generally promoted into leadership positions, based primarily on their technical skills. The report recognized that the Army must begin developing interpersonal skills earlier in an individual's career.

## **2. The Leadership Pipeline**

**Overview.** *The Leadership Pipeline* identifies, and attempts to address, a critical problem facing organizations today; "How do we develop our workers so that they can assume key leadership positions in the future?" It should come as no surprise that finding good leaders is often a difficult task. Where do the great leaders come from? How did they become great leaders? It has been said for many years that great leaders cannot be developed, rather that they are born with natural leadership ability. The authors of *The Leadership Pipeline* challenge that assumption by identifying seven distinct levels of leadership that exist in the private sector, and characterizing three areas that are unique to each of those seven leadership levels, specifically; skill requirements, time applications, and work values.

Skill requirements are the new capabilities required of individuals to execute their newly acquired leadership responsibilities. Time applications are the new timeframes that govern how individuals use their time in the performance of their work. Finally, work values are what individuals believe is important, and thus, what becomes the focus of their work.

The concept of a “leadership pipeline” is based on a hierachal structure that starts at the worker level and ends with the Enterprise Manager, or more appropriately, the Chief Executive Officer (CEO). Although the leadership levels may vary based on the size and organization of a company, the leadership pipeline concept is generally adaptable to any organization, regardless of its size or complexity. *The Leadership Pipeline* provides insight into specific problems that can impact a leader’s ability to transition to the next level of leadership. The end goal for any organization is to keep the “leadership pipeline” flowing and have the ability to assign personnel to leadership positions that are appropriate for their skills, time applications, and work values.

Too often, companies focus on the technical skills and knowledge of their leaders, or their product market share and profitability, and fail to recognize the skills, time applications, and values that are required of their high-performing leaders. There is a commonly held belief that success at one level of leadership is a reliable indicator of success at the next higher level. However, conventional wisdom tells us that this is very often not the case. This becomes painfully evident when leaders at any of the management levels struggle to perform, or succession planners must go outside the organization to get the leaders that they need.

The leadership succession process requires objective and quantifiable criteria for the selection of individuals to fill leadership positions. Relying on past performance, personal connections, and personal preference will clog the leadership pipeline, and prevent the development of future leaders. Having specific knowledge about the requirements for succession to the next level of leadership will assist organizations in assessing the performance of their leaders, enable them to select the right person for leadership positions, and ensure success at the next level.

**Seven Levels of Leadership.** The seven levels of leadership described in *The Leadership Pipeline* are typical in the corporate world, and are based on their relationship to individuals or organizations managed. These seven levels of leadership are listed in Table 2-1.

**Table 2-1. Seven Levels of Leadership**

| Leadership Level | Description        |
|------------------|--------------------|
| Level 1          | Managing Self      |
| Level 2          | Managing Others    |
| Level 3          | Managing Managers  |
| Level 4          | Functional Manager |
| Level 5          | Business Manager   |
| Level 6          | Group Manager      |
| Level 7          | Enterprise Manager |

Level 1 is described as an individual contributor, or “managing self.” Level 1 includes positions where tenured, or journeyman level, individuals work in technical or functional areas that do not typically involve management responsibilities.

Level 2 is described as “managing others.” Promotion to level 2 often represents an individual’s first experience in managing the work of others. The level 2 manager has responsibility for the performance of others, but may not have direct supervisory responsibility over them. The focus of the level 2 manager is on getting results from others, and recognizing that his or her success depends on the success of the team.

Level 3 is described as “managing managers.” Often the first level of management with direct supervisory responsibility, the focus of the level 3 manager is to manage direct reports or other first-line managers. Management at level 3 is often considered the most challenging, because the manager of managers “must be pure management,” and they must be able to divest themselves of individual or technical tasks. Their need for technical proficiency wanes as their need for leadership skills increases. Level 3 managers are typically responsible for the largest groups of individuals within the organization, who do the most hands-on work.

Level 4 is described as a “functional manager.” At this level, managers must think strategically about the overarching function of the organization. The transition to a

functional manager poses the challenge of managing functional areas within the organization that they are not familiar with. Level 4 managers must be able to balance their time and attention among all of the functional areas under their management.

Level 5 is described as a “business manager.” At this level, managers typically gain a great deal of autonomy. The transition to a business manager poses its own challenges. The level 5 manager is responsible for integrating organizational functions, and must be skilled in working with a wider variety of individuals than at lower levels. Their perspective must extend beyond the direct functioning of the organization, to how the organization relates to the marketplace. It must also not only consider current, but future goals and objectives for the organization.

Level 6 is described as a “group manager.” The group manager is responsible for managing multiple businesses (or organizations). The level 6 manager must be skilled at strategic allocation of capital and assessing their core business capabilities to be successful in a competitive marketplace. Smaller businesses or corporations typically do not have group managers in their organizational structure, and rely on their CEO to assume this role.

Level 7 is described as an “enterprise manager.” Enterprise managers are typically the organization’s CEO. To be successful at level 7, the enterprise managers must be visionary, and think long-range. Because their overall job performance could be based on a small number of decisions annually, enterprise managers must be able to establish, and focus on, a small number of critical priorities.

## **B. STUDY METHODOLOGY**

### **1. Overview**

The scope of this study was limited to Army civilian leaders. Since this study was intended to expand on the effort completed by the ATLDP in 2003, the study team focused on Army civilians, in recognition of the fact that military personnel have a well-defined and structured plan for their career development and advancement roadmap.

The study was divided into the following series of activities: (1) establishing the objectives of the study; (2) establishing the management/leadership levels for inclusion in the study; (3) developing the survey and interview questions based on study objectives; (4) conducting a selected literature review; (5) selecting study participants; (6) conducting participant surveys and interviews; (7) compiling study data; (8) analyzing study data; and (9) formulating conclusions and recommendations.

## **2. Establishing Management/Leadership Levels**

The “leadership pipeline” concept is generally adaptable to any organization, regardless of its size or complexity. It was for this reason that the Joint Applied Project team opted to use *The Leadership Pipeline* as the basis for defining and structuring comparable, progressive levels of management/leadership in the civil service for consideration in this Joint Applied Project study.

While *The Leadership Pipeline* provides detailed insight into the skills, time applications, and work value requirements for high performing leaders, the study team recognizes that interpersonal skills are an essential element for leadership success. Coaching and mentoring workers and managers, planning and assigning tasks, providing feedback on performance, and communicating goals and visions to the work force all require unique communication skills. These skills are not typically taught to engineers, financial managers, human resources specialists, or even those who major in business management as part of their formal education. Strong and effective communications skills and competencies are the catalyst for successful application of the skills, time applications, and work values advocated in *The Leadership Pipeline*.

The general job requirements and communication competencies required for each of the levels studied were outlined in *The Leadership Pipeline*. The Joint Applied Project team equated the seven levels in *The Leadership Pipeline* to management levels within acquisition organizations in the Department of the Army. The seven levels described in *The Leadership Pipeline*, and their comparable civil service management/leadership positions typically found among acquisition organizations are shown in Table 2-2.

**Table 2-2. Comparable Management/Leadership Positions**

| <b>Level</b> | <b>Comparable Management/Leadership Positions</b>   |   |
|--------------|---|---|
|              | <b>Private Sector<br/>(The Leadership Pipeline)</b> | <b>Civil Service*</b><br>(Typical Acquisition Organizations)          |
| <b>1</b>     | <b>Manage Self</b>                                  | <b>Non-Management Professional or Specialist<br/>(up to GS-12/13)</b> |
| <b>2</b>     | <b>Manage Others</b>                                | <b>1<sup>st</sup> Line Manager or Branch Chief (GS-13/14)</b>         |
| <b>3</b>     | <b>Manage Managers</b>                              | <b>1<sup>st</sup> Line Supervisor or Division Chief (GS-14/15)</b>    |
| <b>4</b>     | <b>Functional Manager</b>                           | <b>Product Manager (GS-14/15)</b>                                     |
| <b>5</b>     | <b>Business Manager</b>                             | <b>Project Manager (GS-15) or<br/>Program Manager (SES)</b>           |
| <b>6</b>     | <b>Group Manager</b>                                | <b>Program Executive Officer (SES)</b>                                |
| <b>7</b>     | <b>Enterprise Manager</b>                           | <b>Army Acquisition Executive (SES)</b>                               |

\* Civil Service positions and grade levels indicated are consistent with the current General Schedule (GS) pay levels. Comparable pay bands vary and are not shown.

Once comparable civil service management/leadership levels were established for each of the seven levels defined for the private sector, the study team focused on the four most pivotal of these levels, specifically the Branch Chief (level 2) through the Program Manager (level 5). While leadership skills are important at all levels, the development of interpersonal and leadership skills are viewed as the most critical to overall career development at these levels. The job responsibilities and communication competencies required for each of the levels studied are summarized in the following paragraphs.

**Level 2 – Manage Others (Branch Chief).** Managing others is equivalent to the Branch Chief in the Army management structure. This is the first level of management that requires supervision of other employees. Within major Army acquisition project offices, this manager is typically a GS-13 or -14, depending on the organizational structure. The Branch Chief must plan, direct, and manage the activities of an assigned area, and have specific tasks, and must analyze project progress and disseminate information through reports, memos, and reviews. Some Branch Chiefs supervise employees; both direct reporting and support contractors. As a first-line supervisor, they

must provide feedback to subordinates on individual performance and support the organization's values.

**Level 3 – Manage Managers (Division Chief).** The level 3 manager is typically a Division Chief in an Army acquisition organization. This is the first level of supervision that requires employees to manage other managers or supervisors. The Division Chief in a large acquisition organization is typically a GS-14 or 15 civilian. Although the Division Chief is responsible for his direct reporting managers, he may be the senior rater for personnel down to the working level. The Division Chief is the principal advisor and assistant to the Project Manager for an assigned area of expertise. The Division Chief must assure that all program activities are fulfilled in a timely manner to meet development, production, and deployment needs. The level 3 manager must provide technical expertise to subordinates as well as superiors, and integrate information from each of his subordinate branches. The level 3 manager must balance his management and technical skills. Although they have progressed to higher management echelons, their technical expertise is still required by subordinates and superiors.

**Level 4 – Functional Manager (Product Manager).** The level 4 manager is typically a Product Manager within the Army acquisition management structure. The majority of Product Manager's positions are filled with military officers at the O-5 level (i.e., Lieutenant Colonel) or GS-14/15 civilians. The individuals occupying these board-selected positions are among the most highly-qualified professionals in the Army.

The level 4 manager begins to think of the project in more strategic terms, while still focusing on the hardware and software that will be integrated into the weapon system. The Product Manager has a distinct number of direct reporting personnel, but must use the expertise of divisions and directorates across the entire organization. The Product Manager has numerous indirect reports which can number in the thousands when considering the prime contractors, support contractors, internal project office personnel, and other supporting Government agencies. The Product Manager provides coordinated Government guidance to the prime contractor, and is considered the centralized manager for the design, manufacture, test, and fielding of the assigned system. The Product Manager assists in setting the organizational climate.

### **Level 5 – Business Manager (Project or Program Manager).** A

Project/Program Manager in the Army acquisition management structure is generally occupied with a military officer at the O-6 or O-7 level, depending on the size or visibility of the acquisition program, or GS-15/SES civilians. The Project/Program Manager is ultimately responsible for the weapon system that is being developed, acquired, and fielded. As stated in *The Leadership Pipeline*, “there is a tremendous sense of ownership” at this level. Depending on the size of the project office, the Project/Program Manager generally has about a dozen direct reports. Like the Product Manager, the Project/Program Manager’s decisions can affect hundreds or thousands of Government and contractor personnel.

The Project/Program Manager is the centralized manager for an assigned weapon system with responsibility for the acquisition and life cycle management of that system. The Project/Program Manager must plan, direct, and control the tasks and resources involved in the development, acquisition, testing, fielding, sustainment, and disposal or demilitarization of that weapon system. The Project/Program Manager focuses on the strategic goals and the mission of the organization, and is instrumental in setting the ‘tone’ of the organization’s culture and values.

### **3. Study Participants**

A total of 38 Army civilian leaders were selected as participants in this study. Since the scope of this study was limited to the four most pivotal of civilian management/leadership levels, the study team endeavored to enlist a representative sample of Army civilian leaders, distributed equally among those four levels.

The study team prepared a list of prospective participants by their organization and management/leadership level. Each prospective participant was contacted either in person, by phone, or by electronic mail, to determine whether they would be willing and able to participate in this study. The majority of prospective participants expressed a willingness to participate. However, the team found it more difficult to enlist the participation of level 5 leaders due to their often-busy schedules. The final group of 38 study participants consisted of ten each from levels 2 through 4, and eight from level 5.

The most important criteria applied in the selection of study participants, regardless of their management/leadership levels, was the maturity of their interpersonal skills, as evidenced by their perceived effectiveness as civilian leaders. Selecting effective leaders for the study would provide more useful information and insights than could be acquired from a random sample of leaders.

Both supervisory and management (i.e., non-supervisory) leaders were selected for participation in this study. In the civil service, there is an important distinction between individuals acting in a supervisory versus a management capacity. Having supervisory authority carries certain legal authority and responsibility for handling defined personnel matters, including timekeeping, approval for leave, performance appraisals, promotions, career development, and counseling. Having this legal authority and responsibilities distinguishes a supervisor from a manager. Both supervisors and managers have responsibility for making work assignments, and directing the activities for the individuals reporting to them. Thus, selecting both supervisory and management civilian leaders allowed the study team to consider a wider variety of interpersonal skills required for successful job performance.

#### **4. Survey Questionnaire (SQ)**

The 38 participants in this study were asked to complete a questionnaire (see Appendix A) prior to being interviewed. The questionnaire consisted of 13 survey questions (SQ), designed to support and supplement the information provided by the participants during their individual interviews relevant to participant demographics, communication habits, interpersonal skills, leadership, and formal training.

**Demographics (SQ-1 through SQ-6).** The first six survey questions were intended to gather basic demographic information on each participant's current job situation. In SQ-1, participants were asked to list their current job title. Job titles were expected to vary widely among the participants' respective organizations, and alone, were not considered indicative of the participants' job level or responsibilities.

In SQ-2, participants were asked how long they had served in their current job. The purpose of SQ-2 was to give the study team some basis for assessing the

participants' experience level on their current jobs. The length of time the participants had served in their current jobs was also expected to vary widely.

In SQ-3, participants were asked whether they had any individuals under their direct supervision, and if so, how many. In SQ-6, participants were asked how many people reported to them indirectly (i.e., in a non-supervisory capacity). Participants were asked to categorize these subordinates by number as civilian employees, contractors, and other (e.g., other Government agency employees, military, military reservists, summer hires, and student hires). The purpose of these two survey questions was to help the study team in assessing the nature of the authority the participants held within their respective organizations.

In SQ-4, participants were asked how many of the individuals under their direct supervision were collocated with them at a common site or facility. Collocation can be a significant factor in the choice of communication media in the participants' daily routine. For example, being collocated with subordinates provides an opportunity for face-to-face communication, as opposed to communication by telephone or electronic mail. Not being collocated at a common site or facility would necessarily preclude face-to-face communication as a daily routine. Thus, the purpose of this question was to help the study team understand whether collocation with individuals under the direct supervision of the participants was a significant influence in the choice of communication media.

In SQ-5, participants were asked to identify the categories of job functions that individuals under their direct supervision routinely perform. Six job categories were considered, specifically; professional, technical, administrative, clerical, skilled/unskilled labor, and other (i.e., job functions other than those listed). Participants were not asked to indicate the number of individuals that fit into these categories. The purpose of SQ-5 was to help the study team understand the nature of the relationships between the participants, and the individuals they supervise, with respect to the type and degree of refinement of interpersonal skills needed.

**Communication Habits (SQ-9 through SQ-12).** Survey questions 9 through 12 were designed to gather information on the participants' routine communication habits,

including who they communicate with, what communication media they rely on the most, what influences their choice of communication media, and which communication medium they found most challenging.

In SQ-9, participants were asked to estimate how much of their time, on a routine workday, is spent communicating with individuals within, and outside of, their own organization. Participants were asked to assign relative percentages, totaling 100 percent, to eight different categories of individuals, including their subordinates, peers, superiors, internal customers, contractors, external customers, Service headquarters (e.g., Department of the Army), and others that did not fall into one of the remaining seven categories. The categories of individuals identified in SQ-9 were not presented to the participants in any particular order, to avoid influencing their responses.

In identifying their subordinates, participants were not asked to distinguish between individuals reporting to them in a supervisory or management capacity. Peers of the participants were individuals at the same management level, or that have a similar level of responsibility and authority in their job. Superiors of the participants were individuals at a higher level of management within their organization, regardless of whether they reported directly or indirectly to that individual.

Internal customers were individuals within the participants' organizations to whom they provided some product or service in support of that organization's mission or function. In contrast, external customers were individuals outside of the participants' organizations to whom they provided some product or service in support of the mission or function of the customer's organization. For the four levels considered, communication with individuals at a Service headquarters would typically be for the purpose of reporting information or promulgating Service policy. Contractors were individuals currently under contract to, or in contract negotiations with, the Government for the purpose of providing goods or services. Contractors could either work for a company or be self-employed (e.g., independent contractor).

The purpose of SQ-9 was to determine whether any patterns were evident among the participants with regard to whom they communicate with on a routine basis, and

whether there were discernable differences among the four levels considered. Discernable patterns were expected, in spite of the wide variety of job responsibilities among the participants.

In SQ-10, participants were asked to rank a series of five communication media in descending order of their importance to them in performing their current job. The communication media identified in SQ-10 were listed in descending order of their effectiveness. The communication media considered were: (1) face-to-face (i.e., a one-on-one conversation, or an informal conversation among a small group); (2) electronic mail; (3) telephone (i.e., a one-on-one conversation via telephone); (4) teleconferencing and video teleconferencing; and (5) memorandum (e.g., official correspondence, formal letters, notices and bulletins).

The purpose of SQ-10 was to determine whether the participants' choice in communication media was consistent with the literature on media choice, and whether there were discernable differences in the choice of communication media among the four levels considered.

In SQ-11, participants were asked to rank a series of six factors, in descending order of their perceived importance, that influence their choice of communication media to use on their job. The six factors considered were: (1) personal preference; (2) expediency; (3) required by management or organizational policy; (4) effectiveness; (5) collocation; and (6) documentation (i.e., documenting the communication). The factors identified in this question were not presented to the participants in any particular order, to avoid influencing their responses. The purpose of SQ-11 was to determine which factors have the greatest impact on the choice of communication media among the participants (e.g., collocation as a significant influence in the choice of face-to-face communication), and whether there were any discernable differences among the four levels considered.

In SQ-12, participants were asked to identify which communication medium was the most challenging for them personally. Participants were not given a list from which to select a communication medium, nor were they asked why they found that particular communication medium to be most challenging for them. The purpose of SQ-12 was to

determine whether any communication media would be identified repeatedly by the participants as the most challenging to them, and thus, as an area of emphasis in improving interpersonal skills development.

**Interpersonal Skills (SQ-8).** In SQ-8, participants were asked to rank a series of ten interpersonal skills in descending order of their importance in performing their current job. The ten interpersonal skills selected for this study were identified in the ALTDP Report as representing a cross-section of communication transactions that individuals acting in a leadership role would typically perform in their jobs, including: (1) providing guidance or direction; (2) motivating and inspiring; (3) fostering commitment; (4) conveying information; (5) mentoring; (6) providing employee feedback; (7) teambuilding; (8) listening; (9) persuading; and (10) conflict resolution. The interpersonal skills identified in this question were not presented to the participants in any particular order, or grouping, to avoid influencing their responses. The purpose of SQ-8 was to capture the participants' perspectives on the relative importance of common interpersonal skills, and whether their perceived importance differs at the four levels considered.

**Leadership (SQ-7).** In SQ-7, participants were asked to rank a series of five contributing factors by their perceived importance in developing effective leaders. The five factors were: (1) technical proficiency, (2) effective communication and interpersonal skills, (3) experience, (4) formal leadership training, and (5) natural leadership ability. The factors identified in this question were not presented to the participants in any particular order, to avoid influencing their responses. The purpose of SQ-7 was to capture the participants' overarching perspective on the relative importance of these factors in their contribution to effective leadership, and whether their perceived importance differs at the four levels considered.

**Formal Training (SQ-13).** Finally, in SQ-13, participants were asked to identify courses they have completed from the Army's Civilian Leader Development Core Curriculum. Participants were also given an opportunity to list other formal leadership training, including a Senior Service College (e.g., Army War College). Participants were not asked when they had taken these courses during their career progression.

The legal foundation for training for Federal Government civilians is found in Title 5 C.F.R., parts 410 and 412. The Army's Civilian Leadership Development Core Curriculum reflects the mandatory and recommended courses that make up the curriculum. The majority of the courses in the curriculum are considered mandatory, especially at the level indicated. It includes training for the Intern, Supervisor, Manager, and Executive level civilians as depicted in Figure 2-1.



**Figure 2-1. Army Civilian Leader Development Core Curriculum**

The purpose of SQ-13 was to determine the type and level of formal leadership development training the participants have completed, and to determine whether any patterns were discernable in the courses completed at the four levels considered.

The core curriculum courses were listed, by management level, in ascending order, beginning with the intern level, through the supervisory and management levels, to the executive level, as indicated in Figure 2-1. Recommended courses in the core curriculum were also included in the list. Since the majority of courses included in the

Army's Civilian Leader Development Core Curriculum are considered mandatory for career progression to the various management levels, it was expected that the number of courses completed by the participants would correspond with the level of their current job (e.g., that level 5 participants would have completed more of these courses than level 2 participants).

## 5. Participant Interviews (IQ)

After the participants completed and returned their survey questionnaires, individual interviews were scheduled. Typically, interviews were conducted with one study team member present, although some interviews were conducted with two study team members present. Each study team member participated in between eight and ten interviews. Individual interviews were typically 30 to 60 minutes in length. Due to regulations restricting the use of recording devices within Department of Defense facilities, participant interviews could not be tape-recorded. Notes were taken by the study team members to capture information from the interviews.

During their interviews, participants were asked a series of seven questions (see Appendix B). The interview questions (IQ) were designed to gather additional demographic information on the participants' current job responsibilities, and to more thoroughly explore their perspectives on the interpersonal skills essential to them in performing their jobs as they progressed in their careers. Other questions explored participants' perspective on the adequacy of formal career and leadership development training currently offered by the Army, especially with regard to developing the essential interpersonal skills at the appropriate point in their career development.

**Demographics (IQ-1).** In IQ-1, participants were asked to briefly describe their primary responsibilities on their current job. Recognizing that there were significant differences in the job descriptions and responsibilities among the participants, the purpose of this question was to familiarize the study team members with each participant's unique job responsibilities, and to put the participants' responses to other interview questions in an appropriate context with their jobs.

**Interpersonal Skills (IQ-2 through IQ-5).** In IQ-2, IQ-4, and IQ-5, participants were asked to identify interpersonal skills they needed during their career progression. In IQ-2, participants were asked to identify interpersonal skills and knowledge that they have found to be critical to do their current job well. In IQ-4, participants were asked whether the interpersonal skills they needed for their current job were different from those they needed for previous jobs, and if they were different, how they differed. In IQ-5, participants were asked to speculate on what interpersonal skills would be required at the next level above their current job. The purpose of these three interview questions was to gain the participants' perspectives on the importance of, and degree of refinement required for, various interpersonal skills along a continuum in their career progression, from their previous jobs to their expectations for future jobs.

In IQ-3, participants were asked to describe a particularly challenging situation they had encountered that required good interpersonal skills to resolve. The study team members asked follow-on questions of the participants to elicit details on the situation described, such as what happened, who was involved, and what challenge the participant felt was posed by the situation. Participants were not asked to reveal the names or titles of any individuals involved in the situation, but rather to describe the role of those individuals within the context of the situation. Participants were then asked how they resolved the situation, and to identify the interpersonal skills they used or needed in this situation. The purpose of IQ-3 was to gain the participants' perspectives on what types of situations they consider challenging, why they considered them to be challenging, and which interpersonal skills were most helpful in resolving them. It was expected that the situations described by the participants would be either non-routine or infrequent occurrences.

**Formal Training (IQ-6 and IQ-7).** Interview questions 6 and 7 were focused on the participants' leadership training. In IQ-6, participants were asked whether their leadership training, formal or otherwise, was focused on interpersonal skills. If so, participants were asked to identify which specific interpersonal or communication skills were emphasized. If not, participants were asked what they felt was lacking, or missing, for their career development. The purpose of this IQ-6 was to gain the participants'

perspectives on the adequacy and effectiveness of the formal training they had completed, as well as any benefits accrued from career development assignments or other on-the-job training, toward developing the interpersonal skills they needed to successfully perform on their job.

In IQ-7, participants were posed with a hypothetical situation in which they had an opportunity to speak directly with their Service Acquisition Executive for five minutes. Participants were asked, in this situation, what they would tell their Service Acquisition Executive is needed to develop interpersonal skills for Army civilian leaders. The purpose of IQ-7 was to give the participants an opportunity to freely articulate, based on their own personal experience and perspective, what was needed to develop interpersonal skills to adequately prepare an individual to meet the demands of a leadership position. The wording of IQ-7 was intentionally left open to elicit participant comments, ideas and suggestions including, and in addition to, formal training.

## **6. Compilation and Presentation of Data**

**Identification Codes.** In the compilation and analysis of data, the identity and home organization of each of the 38 study participants were withheld to protect their privacy. Each of the 38 participants in this study was assigned a unique identification code, designating which study team member conducted the interview, and a sequential number from 1 to 10 for each interview conducted by that study team member.

**Survey Questionnaire Data Matrix.** A data matrix was developed for the purpose of compiling participant responses to the survey questionnaire. The data matrix consisted of a Microsoft Excel spreadsheet, with columns designated for each of the 38 participants by their unique identification code, and rows for each survey question and corresponding participant responses. Columns were grouped, and color-coded, for the aggregated responses, and for each of the four management levels considered in this study. Four additional columns were included to calculate and display basic statistical parameters, specifically; range, mean, median, and mode, for participant responses to SQ-7 through SQ-11. These statistical parameters were used in the subsequent presentation and analysis of the survey questionnaire data.

**Grouping of Data.** For the purpose of data presentation and analysis herein, the various survey and interview questions were grouped into five topic areas relevant to this study: (1) demographics; (2) communication habits; (3) interpersonal skills; (4) leadership; and, (5) formal training. The five groupings of individual survey questions and interview questions are shown in Table 2-3.

**Table 2-3. Groupings of Survey and Interview Questions**

| Topic Areas            | Corresponding Questions |                     |
|------------------------|-------------------------|---------------------|
|                        | Survey Questions        | Interview Questions |
| • Demographics         | SQ-1 through SQ-6       | IQ-1                |
| • Communication Habits | SQ-9 through SQ-12      |                     |
| • Interpersonal Skills | SQ-8                    | IQ-2 through IQ-5   |
| • Leadership           | SQ-7                    |                     |
| • Formal Training      | SQ-13                   | IQ-6 and IQ-7       |

**Presentation of Data.** Data gathered from the survey questionnaire and participant interviews are presented for each question individually, within the five groupings of questions. Quantifiable data are presented in tabular form, typically with responses aggregated for all 38 participants, and broken out for each of the four levels considered in this study.

For the grouping of survey questions on demographics (i.e., SQ-1 through SQ-6) participant responses, both aggregated and for each of the four levels considered, are presented in tables with sufficient resolution to provide a meaningful distribution of the data for subsequent discussion and analysis.

For the grouping of survey questions on communication habits, interpersonal skills, and leadership (i.e., SQ-7 through SQ-12), the data consisted of participants' ranking or quantification of a series of items. These data are presented in tabular form for each survey question in descending order of their perceived importance (e.g., most important to least important) or frequency of occurrence (e.g., most frequent to least frequent), depending on the question, as established by the relative mean values of the

participants' aggregated responses. Corresponding mean values for each of the four management levels considered are also shown for comparison. Response mean values were the primary criteria used for establishing the relative rankings. For SQ-7 through SQ-11, the range, mean, median, and mode of responses, both aggregated and at each of the four management levels considered, are also presented in tabular form as supplemental information in Appendix C.

For the survey question on formal training, SQ-13, participant responses on training courses completed are presented in a tabular form displaying the number of participants at each of the four management levels that had completed each of the courses identified in the survey.

Data from participant interviews are presented in narrative form for analysis. For the interview questions on interpersonal skills (IQ-2 through IQ-5), participant responses are also briefly summarized in tabular form to highlight recurring themes. For the interview questions on formal training (IQ-6 and IQ-7), participant responses are summarized in narrative form to highlight issues relevant to this study, including timeliness and appropriateness of training, mentoring and feedback, cross-training, and career development planning.

## **7. Analysis of Data**

Analysis of the study data is organized based on the five topic areas and their respective groupings of survey and interview questions. Within each grouping, participant responses were analyzed for each question individually, as well as in relationship to the responses to other questions within, or outside of, that grouping.

For the survey questions in the groupings on communication habits, interpersonal skills, and leadership (i.e., SQ-7 through SQ-11), participants were asked to provide a ranking of a series of items, either by their relative importance or frequency of occurrence, depending on the question. With the exception of SQ-10, the series of items were presented to the participants in random order.

Participant responses were compiled, and basic statistical parameters were calculated for their range, mean, median and mode values of the aggregated responses,

and for responses at each of the four levels considered. The range of the responses represented the upper and lower limits of numerical values assigned to each question, for example highest quantity to lowest quantity, or most important to least important factors. The mean of responses represented the average of the numerical values assigned to each question, and was used as the most important consideration in establishing the relative ranking of the series of items identified in each of these questions. Once established, the relative rankings were assessed for trends among the four management levels considered.

The median of responses represented the numerical values at which there were an equal number of responses above and below that value. The mode of responses represented the most frequently selected numerical value assigned to each question. Median and mode values were used primarily to support the relative rankings established by mean values, and to reveal data anomalies that could skew the results.

For the interview questions in the grouping on interpersonal skills (i.e., IQ-2 through IQ-5), participant responses were compiled and assessed for recurring themes. In IQ-2, IQ-4 and IQ-5, participants were asked to identify critical interpersonal skills they needed on their previous jobs, their current job, and expect to need on their next job. Participant responses were arranged in a continuum for each of the four management levels. Interpersonal skills identified by level 2 participants, for example, were compiled and grouped as level 1 for their previous jobs, level 2 for their current job, and level 3 for the next level above their current job.

In IQ-3, participants were asked to describe a particularly challenging situation that required good interpersonal skills to resolve. While the details varied, the situations described by the participants were characterized by their underlying theme, for example, dealing with an insubordinate employee. The data were then grouped and summarized for five situation types for each of the four management levels considered.

For the grouping of interview questions on formal training (IQ-6, and IQ-7), participant responses were compiled and assessed for recurring themes related to the timeliness and appropriateness of training, mentoring and feedback, cross-training, and career development planning. Participant responses to SQ-13 on the leadership training

completed from the Army's Civilian Leader Development Core Curriculum was quantified for each course for each of the four management levels considered, and assessed for trends.

### **III. STUDY DATA**

The data gathered from the 38 participants through survey questionnaires and individual interviews was grouped into five topic areas relevant to this study: demographics; communication habits; interpersonal skills; leadership; and, formal training.

#### **A. DEMOGRAPHICS (SQ-1 THROUGH SQ- 6, IQ-1)**

Survey questions 1 through 6, and IQ-1, were designed to gather relevant background information only on each participant's current job situation, including their job title, length of time in their current job, primary job responsibilities, and the numbers and job functions of people under their direct supervision or management. A more detailed presentation of participants' demographic data is provided in Appendix C.

##### **1. Job Titles and Primary Responsibilities (SQ-1 and IQ-1)**

Job responsibilities varied widely among the participants and their respective organizations. Their responses provided additional insight into their type and level of job responsibilities, and helped the study team to put their responses to other survey and interview questions into a meaningful context.

##### **2. Length of Service (SQ-2)**

Aggregated for all 4 levels, responses to length of service ranged from 2 months to 12 years of experience, with an average of about 4.5 years. The aggregated distribution of participant responses revealed that nearly 70 percent of them had served in their current position for less than 5 years. The participants' length of service in their current position is shown in Table 3-1.

**Table 3-1. SQ-2 – Length of Service in Current Position**

| How long have you served in your current position? | Responses by Level and Aggregated |         |         |         |            |
|--|-----------------------------------|---------|---------|---------|------------|
|  | Level 2                           | Level 3 | Level 4 | Level 5 | Aggregated |
| • Less than 3 years                                | 3                                 | 2       | 4       | 4       | 13         |
| • 3 to 5 years                                     | 3                                 | 5       | 4       | 2       | 14         |
| • 6 to 9 years                                     | 3                                 | 2       | 2       | 1       | 8          |
| • 10 years or longer                               | 1                                 | 1       |         | 1       | 3          |

### 3. Direct Supervision of Employees (SQ-3)

Responses to SQ-3 ranged from none (i.e., having no supervisory authority) to having direct supervisory authority over 60 individuals. Thirteen percent of participants did not have direct supervisory authority over any of their subordinates. Slightly over 75 percent of the participants who reported having direct supervisory over any, or all, of their subordinates, indicated that they had fewer than 20 people under their direct supervision. All level 5 participants reported having supervisory authority; however, none directly supervised over 20 subordinates. The distribution of participants having direct supervisory authority over any of their subordinates for levels 2 through 5 is shown in Table 3-2.

**Table 3-2. SQ-3 – Direct Supervision of Employees**

| Do you have people under your direct supervision? If so, how many? | Responses by Level and Aggregated |         |         |         |            |
|--|-----------------------------------|---------|---------|---------|------------|
|  | Level 2                           | Level 3 | Level 4 | Level 5 | Aggregated |
| • None   | 2                                 | 2       | 1       |         | 5          |
| • 1 to 5 people  | 3                                 | 2       | 2       | 1       | 8          |
| • 6 to 10 people   | 3                                 | 1       | 2       | 5       | 11         |
| • 11 to 20 people  | 1                                 | 3       | 4       | 2       | 10         |
| • More than 20 people  | 1                                 | 2       | 1       |         | 4          |

#### **4. Collocation with Supervised Employees (SQ-4)**

Among the 33 participants who reported being collocated with subordinates, 25 reported being collocated with all of them. As indicated for SQ-3, five participants did not have direct supervisory authority over any of their subordinates. The distribution of participants collocated with their supervised employees for levels 2 through 5 are shown in Table 3-3.

**Table 3-3. SQ-4 – Collocation with Supervised Employees**

| <b>How many people under your direct supervision are collocated with you?</b> | <b>Responses by Level and Aggregated</b> |                |                |                |                   |
|---|--|----------------|----------------|----------------|-------------------|
|   | <b>Level 2</b>                           | <b>Level 3</b> | <b>Level 4</b> | <b>Level 5</b> | <b>Aggregated</b> |
| <b>• All of them</b>  | <b>6</b>                                 | <b>6</b>       | <b>8</b>       | <b>5</b>       | <b>25</b>         |
| <b>• More than 50% of them</b>  | <b>1</b>                                 | <b>2</b>       |                | <b>2</b>       | <b>5</b>          |
| <b>• Less than 50% of them</b>  | <b>1</b>                                 |                | <b>1</b>       | <b>1</b>       | <b>3</b>          |
| <b>• None of them</b>   |  |                |                |                | <b>0</b>          |

#### **5. Job Functions of Supervised Employees (SQ-5)**

Responses to SQ-5, for those participants having direct supervisory authority over subordinates, revealed that nearly 85 percent had professionals under their direct supervision, and about 66 percent reported having technical and administrative personnel under their direct supervision. Only 45 percent reported having clerical personnel under their direct supervision. As indicated for SQ-3, five participants did not have direct supervisory authority over any of their subordinates.

Responses were distributed by the number of participants who reported having personnel in any of these categories under their direct supervision for levels 2 through 5, and aggregated. The distribution of job functions performed by the participants' supervised employees is shown in Table 3-4.

**Table 3-4. SQ-5 – Job Functions of Supervised Employees**

| What type of job functions do those people under your direct supervision routinely perform? | Responses by Level and Aggregated |         |         |         |            |
|---|-----------------------------------|---------|---------|---------|------------|
|   | Level 2                           | Level 3 | Level 4 | Level 5 | Aggregated |
| • Professional  | 8                                 | 7       | 9       | 8       | 32         |
| • Technical   | 5                                 | 8       | 6       | 6       | 25         |
| • Administrative  | 4                                 | 6       | 8       | 7       | 25         |
| • Clerical  | 3                                 | 4       | 6       | 4       | 17         |
| • Skilled/Unskilled Labor   |                                   |         |         |         | 0          |
| • Other   | 1                                 |         | 1       |         | 2          |

#### **6. Indirect Supervision/Management of Employees (SQ-6)**

Four participants did not have any individuals reporting to them indirectly. The remaining participants had individuals reporting to them indirectly from at least one of the three categories. Six participants had individuals reporting to them indirectly from all three categories. There was a significant increase, with career progression to higher levels, in both the number of participants with employees reporting to them indirectly, and the number of employees reporting indirectly to individual participants.

**Civilian Employees.** Twenty-nine percent of the participants had no civilian employees reporting to them indirectly. Nearly 60 percent of the participants had up to 50 civilians reporting to them indirectly. The distribution of participants indirectly managing civilian employees is shown in Table 3-5a.

**Table 3-5a. SQ-6 – Indirect Management of Civilian Employees**

| How many civilian employees report to you indirectly (i.e., in a non-supervisory capacity)? | Responses by Level and Aggregated |         |         |         |            |
|---|-----------------------------------|---------|---------|---------|------------|
|   | Level 2                           | Level 3 | Level 4 | Level 5 | Aggregated |
| • None  | 5                                 | 1       | 2       | 3       | 11         |
| • 1 to 10 people  | 4                                 | 2       | 1       | 1       | 8          |
| • 11 to 50 people   | 1                                 | 6       | 6       | 1       | 14         |
| • 51 to 100 people  |                                   |         | 1       |         | 1          |
| • 101 to 1,000 people   |                                   | 1       |         | 2       | 3          |
| • More than 1,000 people  |                                   |         |         | 1       | 1          |

**Contractor Employees.** Only 18 percent of participants indicated that they had no contractor employees reporting to them indirectly. About 70 percent of the participants had up to 50 contractor employees. The distribution of participants indirectly managing contractor employees is shown in Table 3-5b.

**Table 3-5b. SQ-6 – Indirect Management of Contractor Employees**

| How many contractor employees report to you indirectly (i.e., in a non-supervisory capacity)? | Responses by Level and Aggregated |         |         |         |            |
|---|-----------------------------------|---------|---------|---------|------------|
|   | Level 2                           | Level 3 | Level 4 | Level 5 | Aggregated |
| • None  | 2                                 |         | 2       | 3       | 7          |
| • 1 to 10 people  | 7                                 | 6       | 3       | 1       | 17         |
| • 11 to 50 people   |                                   | 4       | 4       | 2       | 10         |
| • 51 to 100 people  | 1                                 |         |         |         | 1          |
| • 101 to 1,000 people   |                                   |         | 1       | 2       | 3          |
| • More than 1,000 people  |                                   |         |         |         |            |

**Other Employees.** Slightly over 80 percent of the participants indicated that they had no non-civilian, non-contractor employees reporting to them indirectly. The distribution of participants indirectly managing other employees is shown in Table 3-5c.

**Table 3-5c. SQ-6 – Indirect Management of Other Employees**

| How many non-civilian, non-contractor employees report to you indirectly (i.e., in a non-supervisory capacity)? | Responses by Level and Aggregated |         |         |         |            |
|---|-----------------------------------|---------|---------|---------|------------|
|   | Level 2                           | Level 3 | Level 4 | Level 5 | Aggregated |
| • None  | 9                                 | 6       | 8       | 8       | 31         |
| • 1 to 10 people  | 1                                 | 3       |         |         | 4          |
| • 11 to 50 people   |                                   | 1       | 1       |         | 2          |
| • 51 to 100 people  |                                   |         |         |         |            |
| • 101 to 1,000 people   |                                   |         | 1       |         | 1          |
| • More than 1,000 people  |                                   |         |         |         |            |

## **B. COMMUNICATION HABITS (SQ-9 THROUGH SQ-12)**

Survey questions 9 through 12 were designed to gather information on the participants' routine communication habits, including who they routinely communicate with, what communication media they rely on the most, why they choose that communication media, and what communication medium they find most challenging.

### **1. Routine Communication (SQ-9)**

The statistical range, mean, median, and mode of the participants' responses for the seven categories of individuals were calculated for the aggregate of all the participants and for each of the four levels considered. Using the mean values, the aggregated responses were arranged in descending order of the percentage of time the participants spent communicating with each category of individuals. Corresponding mean values for each of the four levels considered were listed in the same order. A more detailed discussion of the range, mean, median, and mode of participant responses to SQ-9 is provided in Appendix C. The distribution of the participants' routine communication with various individuals, as represented by relative mean values, is shown in Table 3-6.

**Table 3-6. SQ-9 – Routine Communication with Individuals**

| <b>On a routine workday, what percentage of your time is spent communicating with individuals within your organization, and outside your organization (totaling 100%)?</b> | <b>Response Means by Level and Aggregated</b> |                |                |                |                   |
|--|---|----------------|----------------|----------------|-------------------|
|  | <b>Level 2</b>                                | <b>Level 3</b> | <b>Level 4</b> | <b>Level 5</b> | <b>Aggregated</b> |
| • Subordinates   | <b>25.3</b>                                   | <b>42.1</b>    | <b>48.3</b>    | <b>35.6</b>    | <b>37.9</b>       |
| • Superiors  | <b>14.4</b>                                   | <b>15.7</b>    | <b>11.2</b>    | <b>8.9</b>     | <b>12.9</b>       |
| • Peers  | <b>12.3</b>                                   | <b>13.9</b>    | <b>9.7</b>     | <b>16.6</b>    | <b>12.8</b>       |
| • Contractors  | <b>11.5</b>                                   | <b>8.3</b>     | <b>8.6</b>     | <b>10.0</b>    | <b>10.8</b>       |
| • Internal customers   | <b>11.1</b>                                   | <b>11.0</b>    | <b>10.2</b>    | <b>10.8</b>    | <b>9.8</b>        |
| • External customers   | <b>10.0</b>                                   | <b>4.5</b>     | <b>7.3</b>     | <b>8.8</b>     | <b>7.6</b>        |
| • Headquarters   | <b>2.8</b>                                    | <b>3.0</b>     | <b>4.7</b>     | <b>9.4</b>     | <b>4.8</b>        |
| • Other  | <b>12.6</b>                                   | <b>1.5</b>     | <b>0.0</b>     | <b>0.0</b>     | <b>3.4</b>        |

Participants at all levels spent the most time, on a routine workday, communicating with subordinates than with any other category of individuals. Time spent communicating with other individuals in their chain of command, including superiors and peers, was about the same as time spent communicating with contractors, and internal and external customers. The time spent communicating with Service Headquarters increased with career progression to higher levels.

## 2. Choice of Communication Media (SQ-10)

The statistical range, mean, median, and mode of the participants' responses for each of these five communication media were calculated for the aggregate of all the participants and for each of the four levels considered. Using the mean values, the aggregated responses were arranged in descending order of their perceived importance to the participants. Corresponding mean values for each of the four levels considered were listed in the same order. A more detailed discussion of the range, mean, median, and mode of participant responses to SQ-10 is provided in Appendix C. The participants' choice of communication media, as represented by relative mean values, is shown in Table 3-7.

**Table 3-7. SQ-10 – Choice of Communication Media**

| What communication media do you rely on most often? Rank in order of importance to you (1 = most to 5 = least). | Response Means by Level and Aggregated |         |         |         |            |
|---|--|---------|---------|---------|------------|
|   | Level 2                                | Level 3 | Level 4 | Level 5 | Aggregated |
| • Face-to-face  | 1.8                                    | 1.7     | 1.7     | 2.1     | 1.8        |
| • Electronic Mail   | 1.8                                    | 1.9     | 2.1     | 1.9     | 1.9        |
| • Telephone   | 2.5                                    | 2.8     | 2.3     | 2.1     | 2.4        |
| • Voice/Video Teleconferencing  | 4.2                                    | 3.8     | 4.3     | 4.1     | 4.1        |
| • Memorandum  | 4.7                                    | 4.8     | 4.6     | 4.8     | 4.7        |

The participants ranked face-to-face communication and electronic mail as the two most important communication media to them. Communication by telephone typically ranked third in importance, but typically ranked closely behind face-to-face

communication and electronic mail. Teleconferencing and video teleconferencing, and communicating through memorandum consistently ranked well below the other communication media as being of the least importance to the participants.

### 3. Influences on Choice of Communication Media (SQ-11)

The statistical range, mean, median, and mode of the participants' responses for each of the six factors were calculated for the aggregate of all the participants and for each of the four levels considered. Using the mean values, the aggregated responses were arranged in descending order of their perceived influence on the participants' choice of communication media. Corresponding mean values for each of the four levels considered were listed in the same order. A more detailed discussion of the range, mean, median, and mode of participant responses to SQ-11 is provided in Appendix C. The factors influencing participants' choice of communication media, as represented by relative mean values, are shown in Table 3-8.

**Table 3-8. SQ-11 – Factors Influencing Choice of Communication Media**

| What factor(s) influence your choice(s) of communication media? Rank in order of importance to you (1 = most to 5 = least). | Response Means by Level and Aggregated |         |         |         |            |
|---|--|---------|---------|---------|------------|
|   | Level 2                                | Level 3 | Level 4 | Level 5 | Aggregated |
| • Expediency  | 1.7                                    | 2.2     | 2.1     | 2.1     | 2.0        |
| • Effectiveness   | 2.0                                    | 2.5     | 1.5     | 2.3     | 2.1        |
| • Personal preference   | 4.4                                    | 2.6     | 4.0     | 3.1     | 3.6        |
| • Collocation   | 3.5                                    | 3.4     | 4.4     | 3.3     | 3.7        |
| • Documentation   | 4.3                                    | 4.6     | 4.4     | 4.9     | 4.5        |
| • Required by management or organizational policy   | 5.1                                    | 5.7     | 4.6     | 5.4     | 5.2        |

Expediency and effectiveness ranked overall as the two most important factors influencing the choice of communication media. Responses indicated that personal preference and collocation were of secondary importance. Responses to SQ-4 revealed that the majority of the participants indicated that they were collocated with all of the

people under their direct supervision. The two least important factors influencing the choice of communication media were documentation, and required by management or organizational policy.

#### **4. Challenging Communication Media (SQ-12)**

The communication medium identified by participants as most challenging to them personally, as represented by number of participants identifying that medium, is shown in Table 3-9. Briefing, lecturing, and impromptu speaking were grouped into a single category for responses, due to their similarities as communication media. These communication media were only identified among level 2 and 4 participants, and represented less than 10 percent of the responses. Face-to-face communication was identified by only one participant, as was communication by telephone.

**Table 3-9. SQ-12 – Most Challenging Communication Medium**

| What communication medium is the most challenging for you? | Distribution of Responses by Level and Aggregated |         |         |         |            |
|--|---|---------|---------|---------|------------|
|  | Level 2   | Level 3 | Level 4 | Level 5 | Aggregated |
| • Voice/Video Teleconferencing                             | 3   | 6       | 1       | 5       | 15         |
| • Memorandum/ Documentation                                | 3   | 2       | 3       | 1       | 9          |
| • Electronic Mail  | 2   | 1       | 2       | 1       | 6          |
| • Briefing/Lecturing, and Impromptu Speaking               | 2   |         | 1       |         | 3          |
| • None or No Response                                      |   |         | 2       | 1       | 3          |
| • Face-to-face   |   |         | 1       |         | 1          |
| • Telephone  |   | 1       |         |         | 1          |

#### **C. INTERPERSONAL SKILLS (SQ-8, IQ-2 THROUGH IQ-5)**

Survey question 8, and IQ-2 through IQ-5, were designed to gain the participants' perspectives on interpersonal skills required during their career progression, as well as the relative importance the participants attribute to various interpersonal skills.

## **1. Relative Importance of Interpersonal Skills (SQ-8)**

The statistical range, mean, median and mode of the participants' responses for each of these ten skills were calculated for the aggregate of all the participants and for each of the four levels considered. Using mean values, the aggregated responses were then arranged in descending order of their perceived importance to the participants. Corresponding mean values for each of the four levels considered were listed in the same order. A more detailed discussion of the range, mean, median, and mode of participant responses to SQ-8 is provided in Appendix C. The relative importance of interpersonal skills to participants, as represented by mean values, is shown in Table 3-10a.

**Table 3-10a. SQ-8 – Relative Importance of Interpersonal Skills**

| Rank, in order, the importance of these interpersonal skills needed for your job (1 = most to 10 = least): | Response Means by Level and Aggregated |         |         |         |            |
|--|--|---------|---------|---------|------------|
|  | Level 2                                | Level 3 | Level 4 | Level 5 | Aggregated |
| Providing Guidance or Direction  | 2.5                                    | 4.1     | 3.1     | 2.5     | 3.1        |
| Listening  | 3.8                                    | 2.8     | 3.8     | 3.0     | 3.4        |
| Conveying Information  | 3.8                                    | 3.9     | 5.0     | 3.8     | 4.1        |
| Motivating and Inspiring   | 4.7                                    | 5.5     | 2.9     | 5.9     | 4.7        |
| Teambuilding   | 4.9                                    | 5.2     | 4.5     | 5.8     | 5.1        |
| Fostering Commitment   | 6.1                                    | 7.0     | 6.6     | 6.5     | 6.6        |
| Mentoring  | 5.6                                    | 6.2     | 6.4     | 8.1     | 6.5        |
| Employee Feedback  | 7.9                                    | 5.9     | 7.7     | 7.3     | 7.2        |
| Conflict Resolution  | 8.1                                    | 6.2     | 7.8     | 5.9     | 7.1        |
| Persuading   | 7.6                                    | 8.2     | 7.2     | 5.8     | 7.3        |

**Groupings of Interpersonal Skills.** Comparing the relative ranking of the ten interpersonal skills from the aggregated responses with the relative ranking at each of the four levels considered, three natural groupings of interpersonal skills became apparent. The three highest ranking of the skills identified were providing guidance or direction, listening, and conveying information, and were grouped together as interactive skills. Interactive skills involved the direct interaction between the manager/supervisor with his

or her superiors, peers, and subordinates, for routine communication transactions in the performance of their jobs.

The four skills that ranked in the mid-range of importance were grouped together as motivational skills, and consisted of motivating and inspiring, teambuilding, fostering commitment, and mentoring. Motivational skills were focused on creating a workplace environment that is conducive to employee productivity, teambuilding, and individual career growth. These interpersonal skills are more subjective in their nature as routine communication transactions.

The three skills that ranked as the least important to the participants were grouped together as negotiating skills, and consisted of providing employee feedback (typically taken as providing negative feedback to a subordinate), conflict resolution, and persuading. Negotiating skills were focused on resolution of problems where conflicting or differing ideas, opinions, and perceptions are prominent in a given situation, for example, personal conflict between two individuals on a team, or persuading someone to change their mind on some issue. The three natural groupings of the ten interpersonal skills identified, as represented by their relative ranking by participants, are shown in Table 3-10b.

The distribution of the relative rankings among the aggregated responses, and among responses at each of the four levels, the identified interpersonal skills fell into three natural groupings, specifically, interactive, motivational, and negotiating skills.

**Table 3-10b. SQ-8 – Groupings of Interpersonal Skills**

| Groupings of Interpersonal Skills (1 = most important to 10 = least important): | Relative Ranking by Level |         |         |         |
|---|---------------------------|---------|---------|---------|
|   | Level 2                   | Level 3 | Level 4 | Level 5 |
| <b><u>Interactive Skills</u></b>  |                           |         |         |         |
| • Providing Guidance or Direction   | 1                         | 3       | 2       | 1       |
| • Listening   | 3                         | 1       | 3       | 2       |
| • Conveying Information   | 2                         | 2       | 5       | 3       |
| <b><u>Motivational Skills</u></b>   |                           |         |         |         |
| • Motivating and Inspiring  | 4                         | 5       | 1       | 7       |
| • Teambuilding  | 5                         | 4       | 4       | 4       |
| • Fostering Commitment  | 7                         | 9       | 7       | 8       |
| • Mentoring   | 6                         | 7       | 6       | 10      |
| <b><u>Negotiating Skills</u></b>  |                           |         |         |         |
| • Employee Feedback   | 9                         | 6       | 9       | 9       |
| • Conflict Resolution   | 10                        | 8       | 10      | 6       |
| • Persuading  | 8                         | 10      | 8       | 5       |

## 2. Required Interpersonal Skills (IQ-2, 4, and 5)

The data from these interview questions were compiled, and arranged in a continuum for each level. Interpersonal skills identified by level 2 participants, for example, were compiled and grouped as level 1 for their previous jobs, level 2 for their current job, and level 3 for the next level above their current job.

**Level 2 Responses.** Level 2 participants indicated that the interpersonal skills they required on their previous jobs were much narrower in scope, and in some respects, less critical than the skills they needed for their current jobs. Level 1 skills required were more technical in nature, including technical writing, technical briefings, and problem solving. Routine communication skills were more geared toward the ability to articulate technical ideas and information to their peers and superiors. Other skills identified were listening, and taking direction from supervisors, and the ability to maintain a tactical view of their job and their organization.

With career progression to their current jobs, level 2 participants indicated that their jobs were somewhat less technical in nature compared with level 1, but they needed to assume a more top-level perspective of their projects, or groups of projects than before. As technical responsibilities for completing waned at level 2, they were given more responsibility for directing the activities of individuals with technical backgrounds. They indicated that good verbal and writing skills were required to provide effective guidance and convey information, to conduct effective meetings and to motivate and inspire their team. Level 2 participants also need to be capable of assessing the strengths and weaknesses of individual team members, and the team as a whole, to capitalize on their strengths, and enhance individual and team performance.

When asked what interpersonal skills would be required to perform successfully at the next level, level 2 participants felt that they would need to continue sharpening their writing and speaking skills. Moreover, the improved skills would be necessary as routine communication transactions expanded to include the ability to persuade, to mentor and coach subordinates, and to mediate conflict within the team. In addition, there was general recognition that level 3 leaders have responsibility for teambuilding, and would be required to develop a more strategic view of organizational goals and objectives.

**Level 3 Responses.** Level 3 participants indicated that the interpersonal skills they required on previous jobs were more technical in nature, including organization of technical data, prioritization of technical tasks, and communicating the technical aspects of the project to their subordinates and supervisors. Consistent with level 2 participants, level 3 participants characterized communication at level 2 as narrower in scope, and as less critical than the next higher level. Primarily, level 3 participants identified effective communication of technical ideas and issues, effective listening, and providing feedback to their superiors as essential interpersonal skills on their previous jobs.

Level 3 participants indicated that significant improvement in their verbal and written communications skills was essential for successful performance on their current jobs. They believed that these skills were essential in providing the guidance and feedback necessary to effectively lead their teams or work groups. They identified

effective listening as an essential element of productive communication. The ability to motivate and inspire their subordinates was also identified as a key requirement for building highly productive teams. Most notable in this assessment category was the belief that honesty, and personal and professional integrity, were essential elements for successful performance.

When asked what interpersonal skills would be required to perform successfully at the next level, level 3 participants clearly recognized that they needed to acquire a broader perspective (i.e., “seeing the big picture”) of their organization’s mission and objectives. In that regard, they identified the ability to “network,” navigate the “political landscape,” and “think strategically” as essential interpersonal skills. Level 3 participants also indicated that at the next higher level, they would need to be credible and accomplished public speakers, and be adept at mentoring, teambuilding, and resolving conflict in the organization. Participants believed that resolving conflict required a leader who was willing to listen to all parties, and speak objectively on the issues involved. This leader would also be identifiable as a highly visible representative of the agency or service, and an essential part of managing and shaping the organizational culture through organizational change and strategic vision.

**Level 4 Responses.** Level 4 participants indicated that the interpersonal skills they needed on previous jobs were more focused on the technical aspects of project management, and on the ability to discuss and solve technical problems. Other interpersonal skills identified included facilitating group collaboration, providing guidance and direction, and teambuilding. A large percentage of the level 4 participants viewed their level 3 jobs as primarily non-supervisory in nature, and still very much technically focused. Others indicated that level 3 leaders played a significant role in change management, and in developing the organizational culture.

In assessing the interpersonal skills necessary for successfully performing their current jobs, level 4 participants indicated that highly refined verbal and written communication skills were critical to effectively communicate the goals and objectives for the organization, clearly articulate guidance and direction, and foster the commitment of the managers assigned. Level 4 participants further indicated that leaders at that level

of the organization must be effective listeners, possess superior time management skills, and be able to articulate their ideas and guidance in a short, concise form (e.g., putting the “bottom line” first) to capture the recipient’s attention, and convey the critical information in a timely manner.

When asked what interpersonal skills would be required to perform successfully at the next level, level 4 participants indicated that they would be similar to what those skills they needed on their current jobs. Level 5 jobs would emphasize superior written and verbal skills, as well as the ability to convey the organizational mission, goals and strategy to the workforce. Level 4 participants viewed the level 5 leader as someone who must possess a strategic vision, communicate very carefully and diplomatically, and be able to “manage the political influences.” They further indicated that the level 5 leader must stay “in-house,” to be available and accessible to their subordinates within the organization, while also being responsible for interfacing with their external constituents, stakeholders, and policy makers.

**Level-5 Responses.** Consistent with the other levels considered, Level 5 participants indicated that their previous jobs were far more technically oriented than their current jobs. On their previous jobs, routine communication was primarily with their peers, and related to project or technical tasks. Good technical writing skills were essential. They viewed their previous jobs as being more focused on the details, and they did not necessarily need to see the “big picture” perspective of their organization’s mission and objectives.

Level 5 participants indicated that highly effective verbal skills, the ability to communicate clearly and concisely, and the ability to provide guidance and direction to their subordinates were essential interpersonal skills in successfully performing their current jobs. Effective listening was also identified as an essential interpersonal skill set. To foster a positive work environment, level 5 participants felt it was important to solicit input from their subordinates, peers, and superiors for consideration prior to making a decision. They also viewed themselves as facilitators, requiring them to have strong “people skills” to achieve consensus, resolve conflict, and motivate their team to perform to the best of their ability. Participants emphasized the need for strong time management

and communication skills that would better enable them to balance their available time, and make best use of available communication media. Finally, participants indicated that level 5 leaders must be able to quickly simplify complex problems (i.e., get to the “bottom line”), but still allow their subordinates to develop and recommend solutions.

When asked what interpersonal skills would be required to perform successfully at the next level, level 5 participants believed there would be more emphasis on effective communication skills that would enable them to build consensus and provide effective presentations and organizational communication to very large audiences. There was a general recognition that the next level would have a greater span of authority and control. Their communication network would be expanded to include lateral communication across the chain of command, as well as vertical communication both up and down the chain of command. Level 5 participants believed that their time management skills would become even more important at the next level. They would need to be able to manage an “unmanageable” schedule, and still take the time to communicate with their subordinates. They felt their subordinates should never feel that they are inaccessible. Finally, level 5 participants viewed their role at the next level as being “driven by politics,” and more focused on policy issues.

**Summary of Responses.** Continuous improvement of interpersonal skills, including written and verbal skills, listening, teambuilding, persuasion, and conflict resolution was considered essential to remain competitive for future job opportunities.

### **3. Challenging Interpersonal Skills (IQ-3)**

Participant responses for IQ-3 were compiled and reviewed to determine whether any patterns or commonality (i.e., common themes) were discernable among the various challenging situations described. Five recurring themes were found among the various situations described by the participants at all of the four levels considered. The five recurring situations described were: (1) seeking cooperation or approval from another agency or contractor; (2) insubordinate employee; (3) ineffective employee; (4) organizational or personnel issue; and, (5) seeking acceptance of a position. Most of these situations were identified among participants at each of the four levels considered.

The interpersonal skills, identified by the participants as being critical in handling the situation described, were then tabulated, for each of the four levels, to construct a matrix. Participants were not asked to identify critical interpersonal skills in order of their importance in resolving the situations they described. Therefore, the tabulated responses in the matrix do not reflect any relative ranking of importance of the interpersonal skills.

In challenging situations where the participants were seeking the cooperation or approval from another agency or contractor, good verbal communication, listening, and teambuilding were the interpersonal skills identified most often across all four levels considered. Other interpersonal skills identified in this situation were demonstrating honesty, negotiating, developing mutual trust, and building consensus.

In challenging situations where participants were forced to deal with an insubordinate employee, listening and conflict resolution skills were identified most often across all four levels considered. Maintaining a calm demeanor, displaying patience, and clearly articulating guidance or direction, were identified as critical to good verbal communication skills. Formal documentation of the situation was only identified as a skill required at level 2. No participants at level 3 identified dealing with an insubordinate employee as a particularly challenging situation they had encountered.

Similar to dealing with an insubordinate employee, participants also identified dealing with an ineffective or poorly performing employee as a particularly challenging situation. Participants indicated that dealing with an ineffective or poorly performing employee required good verbal communication skills, particularly listening, providing constructive, but honest, feedback, demonstrating empathy and compassion for the employee, providing clear direction and expectations for performance, motivating the employee to improve, mentoring the employee on how to demonstrate improvement, and building trust with the employee.

In challenging situations involving resolution of organizational or personnel issues (e.g., organizational change), participants' responses varied somewhat at each of the four levels considered. Participants' responses revealed that good verbal

communication skills were required, particularly in conveying information, providing guidance and direction, motivating subordinates, fostering commitment, listening, resolving conflict, building trust and consensus.

Participants also described situations where they needed the acceptance or adoption of a particular position (e.g., endorsing a particular policy or course of action) as particularly challenging, because there was typically considerable opposition to that position to begin with. Participants identified teambuilding and building consensus most often as interpersonal skills needed in these situations. Effective listening, persuading, providing feedback, building trust, and demonstrating honesty and commitment to the position were also identified as critical interpersonal skills. The types of challenging situations and interpersonal skills participants need to resolve them are shown in Table 3-11.

When asked what interpersonal skills are needed to deal with particularly challenging situations, the participants identified a variety of specific interpersonal skills, some from each of the three groups of interpersonal skills noted in SQ-8. Overall, among the interactive skills, participants identified listening and providing clear guidance or direction most frequently as the skills needed to deal with challenging situations. Motivational skills, including teambuilding, fostering commitment, mentoring, and motivating were also identified as essential in dealing with challenging situations. Negotiating skills were identified in SQ-8 as the least important to the participants in performing their routine job functions, however, they figured prominently in dealing with challenging situations. Negotiating skills identified included providing feedback to employees, resolving conflict, building consensus, and persuasion.

**Table 3-11. IQ-3 – Participants Challenging Situations  
and Needed Interpersonal Skills**

| <b>Tell me about a challenging situation that required good interpersonal skills.</b> | <b>Necessary Interpersonal Skills by Level</b>   |   |   |  |
|---|--|---|---|--|
| <b>Situation Description</b>  | <b>Level 2</b>   | <b>Level 3</b>  | <b>Level 4</b>  | <b>Level 5</b>   |
| <b>Seeking Cooperation/Approval from another Agency or Contractor</b>                 | Verbal Communication<br>Listening<br>Team Building<br>Consensus Building                   | Verbal Communication<br>Persuasion<br>Team Building<br>Negotiation /Mediation | Verbal Communication<br>Listening<br>Team Building<br>Honesty                                   | Verbal Communication<br>Listening<br>Trust<br>Team Building                                    |
| <b>Insubordinate Employee</b>   | Listening<br>Calm demeanor<br>Conflict Resolution<br>Verbal Communication<br>Documentation |   | Listening<br>Conflict Resolution<br>Patience  | Listening<br>Conflict Resolution<br>Guidance /Direction<br>Verbal Communication                |
| <b>Ineffective Employee</b>   | Counseling<br>Verbal Communication<br>Trust building<br>Documentation                      | Counseling<br>Verbal Communication<br>Motivation<br>Direction                 | Listening<br>Verbal Communication<br>Motivating /Mentoring<br>Employee Feedback<br>Compassion   | Listening<br>Verbal Communication<br>Motivation<br>Employee Feedback<br>Direction /Guidance    |
| <b>Organizational/Personnel Issues</b>  | Info Management<br>Motivation<br>Verbal Communication                                      | Conflict Resolution<br>Verbal Communication<br>Conveying Info<br>Listening    | Guidance /Direction<br>Persuasion<br>Conveying Info<br>Foster Commitment<br>Motivating          | Guidance /Direction<br>Verbal Communication<br>Trust<br>Consensus Building                     |
| <b>Seeking Acceptance of a Position</b>   | Team Building<br>Consensus Building<br>Trust   | Team Building<br>Consensus Building<br>Persuasion<br>Info Management          | Team Building<br>Consensus Building<br>Verbal Communication<br>Honesty<br>Feedback<br>Listening | Team Building<br>Conveying Info<br>Verbal Communication<br>Commitment<br>Feedback<br>Listening |

## D. LEADERSHIP (SQ-7)

### 1. Factors Contributing to Effective Leadership (SQ-7)

The statistical range, mean, median, and mode of the participants' responses for each of the five factors were calculated for the aggregate of all the participants and for each of the four levels considered. Using the mean values, the aggregated responses were then arranged in descending order of their perceived importance to the participants (i.e., 1 being most important to 5 being least important). Corresponding mean values for each of the four levels considered were listed in the same order. The ranking of factors contributing to effective leadership, as represented by relative mean values, is shown in Table 3-12.

**Table 3-12. SQ-7 – Factors Contributing to Effective Leadership**

| From your perspective, rate the following in order of their importance to being an effective leader (1 = most to 5 = least): | Response Means by Level and Aggregated |         |         |         |            |
|--|--|---------|---------|---------|------------|
|  | Level 2                                | Level 3 | Level 4 | Level 5 | Aggregated |
| • Effective Communication and Interpersonal Skills   | 1.5                                    | 1.3     | 1.5     | 1.6     | 1.5        |
| • Natural Leadership Ability   | 1.9                                    | 1.9     | 2.3     | 3.1     | 2.3        |
| • Technical Proficiency  | 2.9                                    | 3.6     | 3.4     | 2.9     | 3.2        |
| • Years of Experience  | 4.1                                    | 4.2     | 3.9     | 3.5     | 3.9        |
| • Formal Leadership Training   | 4.6                                    | 4.0     | 3.9     | 3.9     | 4.1        |

Effective communication and interpersonal skills consistently ranked as the most important factor in being an effective leader in both the aggregate of responses, and at each of the four levels considered. Likewise, natural leadership ability ranked slightly higher in importance overall, than technical proficiency. Finally, years of experience and formal leadership training consistently ranked as the two least important factors. A more detailed discussion of the range, mean, median, and mode of participant responses to SQ-7 is provided in Appendix C.

## **E. FORMAL LEADERSHIP TRAINING (SQ-13, IQ-6 AND IQ-7)**

### **1. Leadership Development Training (SQ-13)**

Responses to SQ-13 indicated that courses from the Supervisor level of the Civilian Leader Development Core Curriculum were taken most frequently. Nearly 75 percent of the participants had completed the Supervisory Development Course (SDC), and a little more than 50 percent had completed the Leadership Education and Development (LEAD) course.

Courses from the Manager level were the second most frequently completed by the participants. About 37 percent of the participants had completed Personnel Management for Executives (PME), and about 32 percent had completed Manager Development Course (MDC).

At the Intern level, the Intern Leadership Development Course (ILDC) was completed three times more often than the Action Officer Development Course (AODC). None of the participants had completed both courses at the Intern level.

Only six participants completed courses at the Executive level. One level 5 participant had completed two of the courses, specifically, Leadership at the Peak and the Senior Executive Equal Opportunity Seminar.

Under recommended training, one participant reported attending the Air Defense Officer Basic and Advanced Courses, as well as, the Command and General Staff College (now Intermediate Level Education). The three participants at levels 2 and 3 that indicated they had completed none of the courses in the Civilian Leader Development Core Curriculum were not formal supervisors; therefore, they were not required to complete any of the formal leadership development training courses.

The distribution of courses from the Army Civilian Leader Development Core Curriculum completed by participants is shown in Table 3-13.

**Table 3-13. SQ-13 – Formal Leadership Training Completed**

| Have you completed any courses included under the Civilian Leader Development Core Curriculum listed below? Check those that apply. | Training Completed by Level |         |         |         |
|---|-----------------------------|---------|---------|---------|
|   | Level 2                     | Level 3 | Level 4 | Level 5 |
| <b>Interns:</b>   |                             |         |         |         |
| • Intern Leadership Development Course (ILDC)   | 1                           | 2       | 2       | 1       |
| • Action Officer Development Course (AODC)  | 1                           |         |         | 1       |
| <b>Supervisors:</b>   |                             |         |         |         |
| • Supervisory Development Course (SDC)  | 7                           | 8       | 8       | 6       |
| • Leadership Education & Development Course (LEAD)  | 5                           | 6       | 5       | 4       |
| <b>Managers:</b>  |                             |         |         |         |
| • Manager Development Course (MDC)  | 4                           | 2       | 2       | 4       |
| • Organizational Leadership for Executives (OLE) ( <i>not mandatory</i> )   | 1                           | 2       | 4       | 3       |
| • Personnel Management for Executives (PME) ( <i>not mandatory</i> )  | 3                           | 4       | 6       | 1       |
| <b>Executives:</b>  |                             |         |         |         |
| • SES Orientation Program   |                             |         | 2       | 1       |
| • Force Management Course for Senior Leaders  | 1                           |         |         |         |
| • Leadership at the Peak  |                             |         |         | 1       |
| • Senior Executive Equal Opportunity Seminar  |                             |         |         | 1       |
| • Senior Leader Communications Workshop   | 1                           |         |         |         |
| • DoD Apex Orientation  |                             |         |         |         |
| <b>Recommended Training:</b>  |                             |         |         |         |
| • Sustaining Base Leadership and Management (SBLM)  |                             | 1       |         | 1       |
| • Defense Leadership and Management Program (DLAMP)   |                             |         |         |         |
| • Senior Service College  | 1                           |         | 2       | 2       |
| • Other (specify)   |                             | 3       | 2       | 5       |
| • None  | 1                           | 2       |         |         |

More participants took the two-week PME, which was not mandatory, than the one-week LEAD course, which was mandatory. Also, of the 29 participants who completed the SDC, only 20 completed the required LEAD course. Even fewer participants took the mandatory MDC. Four of the 12 participants who took the MDC were level 2, yet personnel at level 2 are not required to complete the MDC until becoming a supervisor of supervisors.

## **2. Focus on Interpersonal Skills (IQ-6)**

Nearly all participants agreed that the formal training touched on interpersonal skills, but interpersonal skills were not the focus of any one class. Across all four levels considered, participants consistently identified conveying information and teambuilding as the primary interpersonal skills emphasized during their leadership training. Various methods for conveying information included face-to-face communication, public speaking, in writing, verbally, and through briefings. The Myers-Briggs Type Indicator (MBTI) personality inventory, group dynamics theory, organizational structure methods, and group psychology were used to reinforce teambuilding techniques.

Fostering commitment from subordinates, and motivating and inspiring others were the next most frequently identified interpersonal skills emphasized during their formal leadership training. Participants indicated that negotiating skills, including conflict resolution, and providing employee feedback, or employee counseling were only discussed occasionally during their formal leadership training.

A significant number of participants, across all four levels considered, indicated that their training did not address any interpersonal skills, or was lacking in sufficient detail to be meaningful. When asked about interpersonal skills they would like to see addressed, participants identified persuading, and conveying information more than any other skills. Briefing and public speaking skills were frequently identified as communication skills that needed continuous improvement.

The next most commonly identified interpersonal skills missing from training were providing employee feedback, employee counseling, and conflict resolution. Many participants indicated that the majority of their time was spent dealing with individual

issues. However, they felt that they lacked the appropriate interpersonal skills to help them in dealing with “difficult people,” and in providing constructive feedback and criticism, all of which were required to successfully perform in their jobs.

Participants indicated that emphasis on necessary interpersonal skills was more likely to occur in private industry and military offerings than in Government civilian training. The interviews also highlighted the fact that private industry and military leadership training were recognized for their depth and thoroughness in interpersonal skills development. Several participants indicated that they had received their interpersonal skills training “on-the-job,” rather than in formal classroom training.

### **3. Improving Interpersonal Skills Development (IQ-7)**

Without exception, the participants candidly expressed their views on what should be done to improve the development of interpersonal skills among Army civilian leaders. While participant responses varied widely, the majority of the responses could be grouped into one of the following five categories: (1) timeliness of training; (2) appropriateness of training; (3) mentoring and feedback; (4) cross training; and (5) career development planning. Although not specifically asked, many of participants included promotion potential in their responses, which correlated to developing a plan for advancement and training.

**Timeliness of Training.** Many of the responses in this category related to interpersonal skills training being offered earlier in one’s career. By the time an individual becomes a manager or supervisor, he or she should already have, or been exposed to, interpersonal skills training. Training should become a priority of Army civilian employees and their supervisors; however, a balance must be reached in allowing Army civilians to take advantage of available training opportunities for personal growth and career development, but not at the expense of an organization’s mission. Several participants complained that the employees, who were afforded an opportunity to take the most training, often had the least amount of work and responsibility within their organization. Expressed another way, one participant indicated that the individual in the organization with the most formal training “credentials” was likely to be viewed as the

least productive individual in that organization. Several participants wanted to tell the Service Acquisition Executive that the Army civilian employees were not taking advantage of the courses that were being offered at this time.

**Appropriateness of Training.** Participants stated that courses such as the Organizational Leadership for Executives (OLE) training sessions should be mandatory for all Army civilians during their career, rather than an optional class for managers or supervisors exclusively. Interpersonal skills can be enhanced through seminars and courses that stress interpersonal skills. Giving and receiving constructive criticism and effective listening should be core to the curriculum. Supervisors and managers should participate in courses together, so they can benefit from each other's experiences, and share lessons learned.

Several participants indicated that the courses and training must incorporate "real world" exercises to reinforce the theory and principles being taught. In addition, the courses and training needed to be meaningful, and relevant to the Army civilian workforce to performing their jobs.

Prospective leaders need training in human behavioral studies, specifically, how to treat people, how to deal with various situations that occur on the job, and how to motivate and inspire people. Participants voiced a strong dislike for "on-line" courses, as well as the growing emphasis on acquisition training.

**Mentoring and Feedback.** Several participants suggested that interpersonal skills could be improved with feedback from higher-level managers, leaders and supervisors to civilian employees as part of their performance appraisal. One participant stated that if an employee were performing poorly on their job, then open and honest communication would be required to provide constructive criticism, reinforce management's expectations of them, and provide a plan for improvement. This participant further stated, "Political correctness is killing us." Although one participant suggested that an apprentice program, or 'shadowing' a current manager, would lead to the subordinate becoming a "glorified gopher," several participants suggested that a mentoring program, utilizing good leaders as mentors, would be beneficial in improving

and reinforcing interpersonal skills. Not only would this improve interpersonal skills, it would demonstrate a commitment by management to improve future leaders.

**Cross-Training.** The participants offered several suggestions for improving interpersonal skills through cross-training. One participant suggested that a Regional Developmental Assignment be implemented, so civilians could be exposed to other offices within their region, and experience how other organizations perform not only routine tasks, but also how their organizational culture and climate differ. Several participants suggested that more diversified career development assignments were needed to complement the courses and formal training offered to civilians with on-the-job training. More diversified career development assignments would also be helpful in showing that there is more than one way to achieve a goal, or solve a problem.

**Career Development Planning.** Many participants indicated that Army civilian leaders needed to have a clearly defined career development path. An Army Leadership Development plan should be created that would publicize what is required to become an Army civilian leader, and establish a career ‘roadmap’ to achieve that goal. Military personnel currently have a clear career progression path that includes their required training as part of their service rotations (i.e., training rotations). The Army needs a similar policy for civilians that would be consistent among Army civilian organizations. A method of identifying characteristics required for leadership positions should be developed. Having an interpersonal skills assessment tool would also be useful in identifying areas of strengths and weaknesses. Providing Army civilians with a ‘toolbox’ of resources that capture how to handle various personnel situations through the use of interpersonal skills would be beneficial. Sending potential leaders to ‘charm school,’ as is sometimes done in the private sector, could enhance interpersonal skills and leadership ability. Managers should be held accountable for effective use of interpersonal skills by simply adding this requirement to their annual performance appraisal.

In conjunction with developing a plan for potential civilian leaders, the Army should re-examine the path for promotions in the technical field. This was a common theme expressed among all four levels of participants. Often, civilians are placed into managerial type jobs, where the need for good interpersonal skills increases, while the

need for technical skills decreases. They apply for these jobs in order to get promoted, when, in reality, some technical personnel simply do not have the skills, interest or abilities needed to become good managers. One participant stated that technical personnel, such as engineers and scientists, are "...trained to be problem-solvers, not managers. They simply do not get the type of training necessary to become good managers as part of their technical education. They need to get the appropriate training to become effective and successful managers. They need training in basic human behavior, because, when you get right down to it, being a good manager is all about understanding and dealing with human behavior."

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## IV. ANALYSIS OF DATA

### A. DEMOGRAPHICS

**Job Titles and Responsibilities (SQ-1 and IQ-1).** As expected, the job titles varied widely among the acquisition organizations used in this study, and alone, were not indicative of the type and level of responsibilities within an organization. The designation supervisor or supervisory in the job title was the sole exception, since this designation implies direct supervisory authority as part of the job. Job titles were also found to be unique to the individual organizations used in this study, by both location and type of acquisition organization. Job titles among level 2 and 3 participants were more organization-unique, and were less representative of the type and level of responsibility within their organizations. Job titles among level 4 and 5 participants exhibited more consistency between organizations and with the type and level of responsibility within the organization.

The primary job responsibilities described by the participants in response to IQ-1, along with their grade level, provided a better indication of the participants' relative level of responsibility within their respective organizations. This validated the grouping of participants into the four management levels.

**Length of Service (SQ-2).** For the study team, the fact that nearly 70 percent of the participants interviewed had been in their current job for five years or less, was viewed as a positive indicator. This indicates that the majority of the participants are demonstrating career growth potential as they progress upward in the Army civilian leadership echelons. Two of the participants, at levels 2 and 3, have been in their current jobs for 10 years or longer. The study team viewed this as an indication that these participants are either satisfied with their current job and level of responsibility, or that they have not demonstrated career growth potential. In either case, the study team viewed this as a generally negative indicator within an organization.

**Direct Supervision of Employees (SQ-3 through SQ-5).** Responses to SQ-3 through SQ-5 indicated that nearly 87 percent of study participants had supervisory

authority over subordinates, typically in professional, technical, administrative and clerical functions. This is consistent with the types of acquisition organizations used in this study. Not surprisingly, three quarters of the participants indicated that they were collocated with all of their supervised subordinates. This was seen as a positive indicator with respect to effective communication. Collocation with subordinates gives the supervisor the most flexibility in choosing a suitable communication media for routine communication transactions. Collocation enables face-to-face communication, which is considered to be the most effective media. Not being collocated with subordinates effectively eliminates face-to-face communication as an option, relegating routine communication transactions to less interactive and effective forms of communication such as telephone conversations, exchanging electronic mail, or video teleconferencing.

**Indirect Supervision of Employees (SQ-6).** Nearly 90 percent of the study participants reported managing the activities of civilian employees, contractors, and other employees without having direct supervisory authority over them. This trend was evident among all four management levels considered. Level 3 and 4 managers within an acquisition organization typically have both direct and indirect reporting subordinates (civilian employees and contractors). Not surprisingly, the numbers of employees managed exhibited an increase with career progression and relative level of responsibility within the organization.

Also of significance to the study team was the fact that half of the level 2 participants reported having indirect supervision responsibility for some or all of their subordinates. These managers typically have responsibility for the assignment of work and for the performance and accomplishments of their subordinates, but lack the supervisory authority. Managing subordinates without having direct supervisory authority is typical at the first line management echelon (e.g., a team leader) in an acquisition organization.

## **B. COMMUNICATION HABITS**

Participants' responses to SQ-9 through SQ-12 were compiled and organized in a matrix that would allow the data to be aggregated for all 38 participants, and segregated by individual levels to facilitate analysis. Mean data was the primary tool used for analysis, and represented the average of the numerical values provided to each question. Data collected for range, median, and mode were used, where applicable, to validate the relative rankings derived from the mean data, or to demonstrate anomalies in the data.

### **1. Routine Communication**

The aggregated responses revealed that the participants spent more time communicating with their subordinates than any other category, with a mean value of 37.9 percent of their time. Relative mean values further revealed that the participants spent roughly the same percentage of their time communicating with their superiors, peers, contractors and internal customers, as evidenced by values ranging from a high of 12.9 percent for superiors, to a low of 9.8 percent for internal customers. This finding was supported by the median and mode values of 10 percent for these three categories of individuals (see Appendix C, section A). Time spent communicating with external customers and Service Headquarters was nearly half of that. Time spent communicating with other individuals, not included in the remaining seven categories, was only 3.4 percent as evidenced by its mean value.

The mean responses from the individual levels show that communication with superiors decline as leaders rise to higher levels of leadership. Intuitively, as leaders progress to continually increasing levels of responsibility, they are expected to think more independently and strategically; making decisions on behalf of the organization based on their visions and agency objectives without continual direction from higher-level leadership.

Although the aggregated mean for communications with subordinates is nearly 38 percent, it is interesting to note that the level 2 mean is only 25.3 percent. This may be an indication that first-time managers are having difficulty breaking away from their previous experiences of managing themselves, and are not yet comfortable with direct

communication with their subordinates. Many employees progressing from managing projects, and managing themselves, are not adequately prepared for interpersonal interactions required for superior management of personnel. Many first-time managers feel that they must continue to carry a majority of the workload, and are not comfortable with delegation of responsibilities. Other first-time managers simply do not understand interpersonal behavior well enough to inspire, motivate, and foster commitment of their subordinates. The data further suggests that first-time managers are not learning basic communication skills at the entry level of leadership.

## **2. Choice of Communication Media**

The range of the aggregated responses for each of the five communication media revealed a continuum of values that was also reflected in their relative mean, median, and mode values (see Appendix C, section B). The relative mean values of the aggregated responses, however, did not exhibit a decisive ranking of the five communication media. As expected, face-to-face communication was ranked as the most important communication media with a mean value of 1.8, and was generally regarded as the most effective communication means. Face-to-face communication provided a forum whereby the message sender and listener can make use of both verbal and non-verbal cues, especially visual cues such as facial expressions/reactions, and body language. Greater understanding and trust was typically obtained through face-to-face communication. Electronic mail ranked a very close second in importance, with a mean value of 1.9.

Communication by telephone ranked third in importance, with a mean value of 2.4. Teleconferencing and video teleconferencing, and communication by memorandum decisively ranked as the least important media to the participants, with mean values of 4.1 and 4.7, respectively.

There were no discernable trends evident among the five media considered. The data collected revealed that the participants relied on face-to-face communication, electronic mail, and telephone communication with relatively equal importance. Face-to-face and telephone communications have been staple media choices for decades. With the advent of affordable computer systems, electronic communication has become the de

facto standard for most of the commercial world allowing fast, efficient and user-friendly access to nearly anyone. Until the advent of electronic mail systems, the use of memoranda was the standard for formal communication between organizations. It was not surprising to find that use of memoranda has declined, particularly now that electronic mail systems have a capability for digital signature for formal/secure communication. Video and/or voice teleconferencing ranked nearly as low as memorandum in their relative importance of the media considered. This could be attributed to several factors, including the fact that video teleconference was not widely available to all offices, and was the newest of these communication media.

The preference for use of electronic mail has detracted from proper development of writing skills among prospective civilian leaders. The fundamental way of learning and mastering any skill is through practice and repetition. The grammatical standards for use of electronic mail are substantially less, and more informal than those required for writing memoranda. The fact-of-life transition to preferential use of electronic media inhibits leaders at every level to hone their writing skills. This was evidenced by the responses within SQ-11, where expediency was chosen as the primary factor influencing choice of communication media.

### **3. Influences on Choice of Communication Media**

The range of the aggregated responses was typically wide, with three of the six factors ranging from 1 (most important) to 6 (least important) (see Appendix C, section C). The aggregated mean values, and their supporting median and mode values, exhibited three close groupings of factors in order of their importance. The highest-ranking grouping of factors consisted of expediency and effectiveness, with mean values of 2.0 and 2.1 respectively. The middle ranking grouping of factors consisted of personal preference and collocation, with mean values of 3.6 and 3.7, respectively. The lowest ranking grouping of factors consisted of documentation, and required by management or organizational policy, with mean values of 4.5 and 5.2, respectively. Median and mode values supported this relative ranking of the six factors.

There were no discernable trends apparent for relative mean values for the influencing factors among the four levels considered. Expediency and effectiveness were consistently chosen as the primary factors influencing the choice of communication media at all four levels considered. It may be reasoned that the participants chose these two factors for symbiotic reasons. The fastest means to an end are often reasoned to be the most effective means to maintain cost and schedule control of acquisition programs. These factors may also affect the communication media used most often. This is substantiated in participants' responses to SQ-10, where the data indicates that electronic mail and telephone were relied upon more often than slower means such as memoranda.

Personal preference and collocation are the participants' next most important influences when choosing a communication medium. This suggests that participants choose a media that they may be more comfortable using, and also that this decision is influenced by the location of the target audience. By far, the least important influencing factor for the participants in choosing a communication medium was a requirement by management or policy. In addition, the data suggested that documentation was rarely considered in the choice of communication media. This suggested that personnel were trusting and confident in the alternative media, and that documentation of communication was not a necessity.

#### **4. Challenging Communication Media**

Overall, the most personally challenging communication medium identified by the participants was voice or video teleconferencing, with nearly 40 percent of the aggregated responses. Participants at levels 3 and 5 identified voice or video teleconferencing as the most challenging most frequently. Preparing memoranda or other documentation was identified as the second most challenging communication media, with nearly 25 percent of the responses. Notably, in the responses to survey question 10, the participants ranked video and voice teleconferencing as the communication media they relied on the least in the performance of their job.

Electronic mail was identified as the third most challenging communication media, with about 15 percent of the responses. Notably, in SQ-10, participants ranked

electronic mail as the second most important communication media they relied on. Briefing, lecturing, and impromptu speaking were grouped into a single category for responses, due to their similarities as communication media. These communication media were only identified among level 2 and 4 participants, and represented less than 10 percent of the responses. Presumably, participants would have more experience with these media with career progression to higher levels, and would not find them as challenging. Face-to-face communication was identified by only one participant, as was communication by telephone. Three participants, at levels 4 and 5, either indicated that no communication medium posed a challenge to them, or simply did not provide a response to SQ-12.

Video and voice teleconferencing was identified more frequently than any other communication medium as the most challenging for the participants. Although reliance on electronic communication media is a premium, it was apparent that most individuals have difficulty with learning a new technology. This was attributed to the fact that most of today's seasoned workforce did not grow up with these technologies, and were therefore more risk or change adverse with the notion of learning technologies that change so frequently. Notably, the heavy reliance on these technologies has detracted from development of critical writing skills, as evidenced by participant responses that writing and preparing documentation were the second most challenging communication media for them.

## **C. INTERPERSONAL SKILLS**

### **1. Survey and Interview Responses**

Survey question 8, and IQ-2 through IQ-5, all relate to the interpersonal skills that are necessary to perform effectively as an Army civilian leader. The grouping of these questions relating to interpersonal skills provide insight into the participants knowledge of critical interpersonal skills, the leadership level that they believe these skills are most critical, and their view of how these skills change as the level of leadership increases.

**Survey Question 8.** Survey question 8 provides insight into the interpersonal skills that the participants value most in performing their jobs and asks the participants to rank a series of ten interpersonal skills in descending order of their importance in performing in their current job.

While an absolute ranking of the mean aggregate responses was not possible, the apparent trend in the median and mode generally supports the relative ranking of the skills by their mean value. Providing guidance or direction ranked as the most important of the ten interpersonal skills considered, followed closely by listening. Conveying information ranked as the third most important skill. Motivating and inspiring ranked fourth followed by teambuilding as the fifth most important skill. Fostering commitment and mentoring ranked sixth and seventh, followed by providing employee feedback at number eight, conflict resolution at number nine, and persuading as number ten. The aggregated ranking of the ten interpersonal skills considered is depicted in Table 4-1.

**Table 4-1. Survey Question 8 – Aggregated Responses**

| Aggregated Ranking of Interpersonal Skills                        |  |  |
|---|--|--|
| Most Important<br>(Interactive Skills)                            | Important<br>(Motivational Skills)   | Least Important<br>(Negotiating Skills)                          |
| 1. Providing Guidance<br>2. Listening<br>3. Conveying Information | 4. Motivating & Inspiring<br>5. Team Building<br>6. Fostering Commitment<br>7. Mentoring | 8. Employee Feedback<br>9. Conflict Resolution<br>10. Persuading |

The aggregated responses indicated that the participants believed that the communications necessary to execute the day-to-day operation of the business unit or project were the most the most frequently used and/or most important communication skills. It is also important to note that the ranking fell into 3 distinct categories; interactive skills, motivational skills, and negotiating skills. Within these categories, providing guidance, listening, and conveying information are grouped as *interactive skills*; motivating & inspiring, team building, fostering commitment and mentoring are

grouped as *motivational skills*; and providing employee feedback, conflict resolution, and persuading are grouped as *negotiating skills*. These aggregated responses are somewhat surprising given the differences in job functions from level 2 through level 5. This will be examined more closely as the responses for each individual level are analyzed.

**Interview Questions 2, 4, and 5.** Interview questions 2, 4, and 5 provide significant insight into the participants' views of themselves as leaders and also their view of their supervisors above them and the workers or direct reports below them. The participants are asked to detail the progression of the development of interpersonal skills and knowledge from level 2 through 5 by asking each the interpersonal skills and knowledge that are critical to their current job (IQ-2), how these skills and knowledge differ from their previous job (IQ-4), and the skills and knowledge that will be necessary at the next level (IQ-5).

**Interview Question 3.** Finally, IQ-3 provides insight into how the participants have used their interpersonal skills by asking them to describe a particularly challenging situation that allowed them to use these skills to resolve this situation.

## **2. Interpersonal Skills for the Level 2 Manager**

**Characterizing the Level 2 Manager.** *The Leadership Pipeline* characterizes the level 2 leader as someone who has progressed from the worker level responsible for managing oneself to a leader who manages the efforts of others. This is a significant transition for most since it requires the new manager to provide clear guidance and direction to the workers in order to accomplish the tasks. Managers who withhold information, issue orders versus direction, and make unilateral decisions generally have a difficult time with this level of leadership. (*Leadership Pipeline* pg.34)

**Examination of Critical Leadership and Communication Skills.** The ATLDP Preliminary Study of Communications Competencies showed that:

...defining and delegating tasks are the first, and most complex, of the skills necessary to be effective as a level 2 leader. Work assignments and expectations must be communicated to subordinates. As work progresses, managers must monitor and measure performance, provide feedback and coach and motivate their subordinates to ensure they are performing to

their best ability. These managers must also recognize and reward their subordinates for good performance.

Although the Level 2 managers' time is split between project planning, prioritizing work, and communicating, time spent communicating is often the most important. Managers must communicate work assignments, priorities, and expectations to their personnel, and also make time to talk with them about problems and issues.

Communication competencies become increasingly complex and important at level 2 by virtue of their nature, time required, and variety of individuals the manager must communicate with. Managers must be comfortable in communicating project status and issues with their bosses, communicating work assignments and expectations to subordinates, and communicating needs with suppliers and contractors. They need to be able to communicate bad news and criticism with the same degree of credibility, empathy and sincerity as when they are communicating good news and successes. Finally, they must be able to use their communication skills to set a good example to their subordinates, and establish good working relationships with their subordinates, bosses, and customers. (ATLDP Preliminary Study of Communication Competencies, pages 11-12)

**Level 2 Responses to SQ-8.** The relative ranking of the ten interpersonal skills for level 2 leaders had a very high correlation to the aggregate results. The skills providing guidance or direction, listening, and conveying information were the three most important skills. Although listening was slightly lower for level 2 than the aggregate, providing guidance or direction and conveying information ranked slightly higher than the aggregate results.

The level 2 leader is a first level supervisor responsible for managing and leading the efforts of the workers. Level 2 leaders must have strong verbal communication skills so that he/she can effectively and efficiently define and delegate tasks, work assignments and expectations. This leader, who is often assigned as the "Branch Chief" in the Army acquisition organization, is the person who is responsible for leading the workforce in the execution of the day-to-day tasking for the project. Although the Branch Chief is

responsible for project planning and prioritization of the workload, communicating with subordinate workers is often the most important activity. If done poorly the effectiveness, productivity, and job satisfaction of the workforce will be impacted.

When asked to rank the interpersonal skills in the order of their importance, level 2 participants believed the interactive skills, including providing guidance, conveying information, and listening, were the most important and/or the most used of the skills considered. This finding was consistent with the characterization of the level 2 manager in *The Leadership Pipeline*, and the critical leadership and communication skills identified in the ATLDP Report.

The Branch Chief is also responsible for monitoring and measuring employee performance, for providing feedback to the employees on their performance, and for coaching and mentoring the employees to ensure optimum performance and career progression. The interpersonal skills necessary to accomplish these critical leadership responsibilities are classified as motivational skills and including, motivating and inspiring, teambuilding, mentoring, and fostering commitment. While they are clearly important, they tend to be less tangible in their perceived value to the participants in their daily routine. Thus, it is wholly appropriate for these motivational skills to be of lesser importance than the interactive skills.

Logically, if the level 2 leader has marginal interactive skills, and fails to successfully perform his primary functions of providing clear guidance and direction, and listening, he will spend all of his time responding to crisis and resolving individual and group conflicts. With this in mind, it is reasonable and appropriate that the interpersonal skills classified as motivational skills be of lesser importance than the interactive skills. However, the fact that the motivational skills are ranked as important indicates that Branch Chiefs place great value on motivating their employees, and building a cohesive work group. This is also indicative of their perceived responsibility to coach and mentor their employees to ensure their personal and professional growth.

The interpersonal skills characterized as negotiating skills, specifically persuading, providing employee feedback, and conflict resolution were ranked as the

least important by the level 2 participants. Theoretically, negotiating skills would be used infrequently by the Branch Chief if he were successful at providing guidance, conveying information, and listening to his workers, and further if he were able to mentor, inspire and motivate them to perform as a highly effective team.

Level 2 responses for SQ-8 were arrayed sequentially, and by their relative importance as shown in Table 4-2.

**Table 4-2. Survey Question 8 – Responses for Level 2**

| <b>Ranking of Interpersonal Skills</b><br><i>(I = Interactive Skills M = Motivational Skills N = Negotiating Skills)</i> |  |  |
|--|--|--|
| <b>Most Important</b>  | <b>Important</b>   | <b>Least Important</b>   |
| 1. Providing Guidance – I<br>2. Conveying Information - I<br>3. Listening - I  | 4. Motivating & Inspiring – M<br>5. Team Building - M<br>6. Mentoring – M<br>7. Fostering Commitment - M | 8. Persuading – N<br>9. Employee Feedback – N<br>10. Conflict Resolution - N |

**Level 2 Responses to IQ-2, IQ-4, & IQ-5.** Level 2 participants indicated that the interpersonal skills they required on their previous jobs were much narrower in scope, and in some respects, less critical than the skills they needed for their current jobs. Level 1 skills required were more technical in nature, including technical writing, technical briefings, and problem solving. Routine communication skills were more geared toward the ability to articulate technical ideas and information to their peers and superiors. Other skills identified were listening, and taking direction from supervisors, and the ability to maintain a tactical view of their job and their organization.

The Branch Chief view of the level 1 as technically focused, and with communication tasks that are narrow in scope, is accurate and consistent with the generally held belief of the role of the worker. The level 1 is first and foremost a worker and makes the largest hands-on contribution to the production effort. With that in mind, the level 1 must ensure that his/her work ethic and values are consistent with the

expectations of the Branch Chief and fit the organization's culture. In addition, the level 1 worker must have strong "follower-ship" skills.

With career progression to their current jobs, level 2 participants indicated that their jobs were somewhat less technical in nature compared with level 1, but they needed to assume a more top-level perspective of their projects, or groups of projects than before. As technical responsibilities for completing waned at level 2, they were given more responsibility for directing the activities of individuals with technical backgrounds. They indicated that good verbal and writing skills were required to provide effective guidance and convey information, to conduct effective meetings and to motivate and inspire their team. Level 2 participants also need to be capable of assessing the strengths and weaknesses of individual team members, and the team as a whole, to capitalize on their strengths, and enhance individual and team performance.

Level 2 participants assessed their current interpersonal skills requirements as consistent with their responses to SQ-8. The skills identified in the interviews were most closely related to interactive skills ranked as most important in SQ-8, and the motivational skills ranked as second in importance. This indicated that the Branch Chiefs have a very good working knowledge of the skills necessary to perform effectively as a level 2 leader/manager. They not only recognized their responsibility for providing guidance and direction, and teambuilding, but also expanded the critical skills to include honesty, and the ability to assess team and individual strengths and weaknesses as additional critical skills.

When asked what interpersonal skills would be required to perform successfully at the next level, level 2 participants felt that they would need to continue sharpening their writing and speaking skills. Moreover, the improved skills would be necessary as routine communication transactions expanded to include the ability to persuade, to mentor and coach subordinates, and to mediate conflict within the team. In addition, there was general recognition that level 3 leaders have responsibility for teambuilding, and would be required to develop a more strategic view of organizational goals and objectives.

The Branch Chief assessment of the skills required at the next level shows their recognition that the next level of leadership is primarily responsible for management functions and for coaching the first level supervisors. In order to be successful, the level 3 manager, or Division Chief, must empower, mentor, and coach the Branch Chief. This is an extremely important function since the Division Chief, via the Branch Chief, is responsible for the greatest number of employees in the business unit.

The level 2 responses indicated that the Branch Chiefs interviewed have a good understanding of the progression of interpersonal skills development in the first 3 levels of the leadership pipeline, and these responses are congruent with the characterization of the communication competencies required for these levels. Participant responses for IQ-2, 4 and 5 at level 2 are shown in Table 4-3.

**Table 4-3. Interview Questions 2, 4 and 5 – Responses for Level 2**

| <b>Identification of Interpersonal Skills in Career Progression:<br/>Responses for Level 2</b>   |  |  |
|--|--|--|
| <b>Previous Jobs<br/>(Level 1)</b>   | <b>Current Job<br/>(Level 2)</b>   | <b>Next Higher Level Job<br/>(Level 3)</b>   |
| Technical – Basic Communication<br><br>Responsible For Self<br><br>Technical Writing<br><br>Technical Briefings<br><br>Problem Solving<br><br>Tactical View<br><br>Listening | Writing Skills<br><br>Conducting Effective Meetings<br><br>Verbal – Providing Guidance<br><br>Motivating and Inspiring<br><br>Honesty<br><br>Assessing Team & Individual Strengths | Increased Writing & Speaking Skills<br><br>Mentoring and Coaching<br><br>Mediating Conflict<br><br>Teambuilding<br><br>Persuasion<br><br>More Strategic View |

**Level 2 Responses to IQ-3.** Interview question 3 solicits feedback on challenging situations that required good interpersonal skills.

Level 2 participants identified verbal communication, listening, team building, consensus building, and trust as the primary interpersonal skills necessary to effectively handle situations that sought the cooperation/approval of another agency/contractor, or

sought the acceptance of a position. In addition to those skills they valued, exhibiting a calm demeanor, and possessing conflict resolution skills allowed them to communicate with their employees with credibility, empathy and sincerity, and enabled them to effectively handle ineffective or insubordinate employees, organizational issues and personnel issues. The interpersonal skills that the Branch Chiefs rely upon to deal with challenging situations were consistent with the required communication competencies identified in *The Leadership Pipeline* and the ATLDP *Preliminary Study of Communications Competencies*.

**Summary of Level 2 Findings.** The level 2, or Branch Chief, ranking of interpersonal skills was consistent with their typical responsibilities as a first line manager or supervisor; with interactive skills as most important, motivational skills as second most important, and negotiating as the least important. The Branch Chief ranking shows that providing guidance and direction to the workers is the first priority, followed closely by teambuilding and individual development. The assessment of the progression of interpersonal skills development is consistent with the job responsibilities for the worker, Branch Chief, and Division Chief as discussed in *The Leadership Pipeline* and the ATLDP *Preliminary Study of Communications Competencies*.

In addition, the Branch Chiefs have effectively used these skills to handle the challenging situations that occur in the typical working environment. Finally, analysis of the level 2 response data suggests that the participants have a strong working knowledge of both the job responsibilities for the level 1-3 workers, and the interpersonal skills that are necessary to succeed in those positions.

### **3. Interpersonal Skills for the Level 3 Manager**

**Characterizing the Level 3 Manager.** *The Leadership Pipeline* characterizes the level 3 leader as someone who has progressed from managing the efforts of others to a manager who is responsible for leading other managers. The ‘Manager of Managers’ is responsible for the greatest number of people in the company who perform the hands-on work. As such, quality and productivity in the organization will be impacted if the level 3 manager does not perform effectively. (*The Leadership Pipeline*, Pg 51)

**Examination of Critical Leadership and Communication Skills.** The ATLDP *Preliminary Study of Communications Competencies* showed that the level 3 manager is:

... primarily responsible for management functions and for coaching the first line managers. The transition from leadership level 2 (GS-14) to level 3 (GS-15) is unique and challenging. Unique in that the focus of the job responsibilities is to manage direct reports or first-line managers; challenging because the manager of managers is responsible for the greatest number of people in the organization who do the most hands on work. The most common mistake is not empowering the first-line managers. Too often, senior management promotes an individual to a level 3 position because of his/her superior skills as a first-line manager and does not develop or train the person in the necessary delegation skills necessary to succeed as a manager of managers.

There are four skills that are absolutely essential at this level: (1) selecting and training first-line managers; (2) holding first line managers accountable for managerial decisions; (3) deploying and redeploying resources among units; and (4) managing the boundaries that separate units that report directly and with other parts of the organization. Most level 3 candidates do not progress to this level with adequate training or coaching; hence there are several traps that must be avoided at all costs.

The first is the inability to delegate responsibility. This will not only frustrate or anger the first-line managers; it will delay the decision-making process and decrease productivity. The second is a failure to build strong teaming relationships. This occurs when the level 3 managers does not integrate and organize individual direct reports, thereby decreasing synergy within the business unit. Finally, this manager must select first-line managers who demonstrate leadership capabilities in lieu of technical skills resembling their own. This trap will clog the leadership pipeline with direct reports who may be unwilling to challenge the GS-15 or bring fresh perspectives to the job.

The GS-15 manager must set aside specific time to assess and evaluate their direct reports. In contrast with the level 2 managers who spend time planning budgets, schedules and projects at the ground level, the GS-15 must dedicate time to the development, training and coaching of their direct reports. In addition, the GS-15 level is the first time that strategic goals of the organization become important. This manager will play a

major role in interpreting and communicating the organization's objectives to the direct reports and the workforce.

Work values of the GS-15 include a focus on teamwork, improvements in efficiencies and quality of the work unit, and development of direct reports. A level 3 will rely on direct reports for success of the business unit and rely on themselves for success of the direct reports. The work values of the direct reports and business unit depend on the culture developed by the GS-15.

At this level of leadership, the emphasis is on downward and horizontal communication. The primary role of the GS-15 is to develop the management skills of the direct reports and foster cooperation and integration within and between business units. Fairness and honesty are critical to the success of any level 3 manager. With respect to specific communication competencies verbal and written communication is crucial, particularly to instill the strategic goals of the organization. In addition, listening to the workforce is critical to meet the needs and sensitivities of workers based on their personal development and trust. (ATLDP Preliminary Study of Communication Competencies, Pg 13-14)

**Level 3 Responses to SQ-8.** Level 3 participants ranked listening as the most important skill set followed by conveying information as the second, and team building as the third. Employee feedback, fostering commitment, mentoring, and conflict resolution ranked five through eight and had very closely grouped mean values. Conflict resolution and motivating & inspiring, and persuading ranked 8 through 10, and were considered the least important of the ten skills.

It is interesting to note that motivating and inspiring moved from one of the most important interpersonal skills for the level 2 managers to one of the least important (9 of 10) for the level 3 managers. The level 3 managers placed team building and listening in the top three interpersonal skills. This suggested that the level 3 participants place greater value on listening to their direct reports, and focusing on team building, with a seemingly lesser value on their obligation to mentor, coach, and develop the level 2 managers assigned under them. While conveying information was ranked as number 2, providing guidance or direction has moved out of the top 3 to number 4. This suggested

that the level 3 manager was less focused on providing specific direction to his managers, and has successfully delegated the day-to-day functions to his direct reports. However, providing guidance and direction is still ranked relatively high and received a higher priority than would seem to be appropriate given the Division Chiefs responsibilities.

Employee feedback, which was ranked as one of the least important for the level 2 manager, was ranked as number 5 for the level 3. This increase in importance for providing employee feedback is indicative of the level 3 managers' commitment to developing the management skills of their first line managers.

Given that the level 3 manager is primarily responsible for management functions, and for coaching their level 2 subordinates (Branch Chiefs), it was somewhat surprising that there was not a marked difference in the prioritization of the interpersonal skills from those provided by the level 2 participants. In addition to coaching the first line managers, the Division Chief is responsible training and mentoring, for providing critical feedback, and holding the Branch Chiefs accountable for their managerial decisions.

While mentoring, fostering commitment, and employee feedback should have been ranked higher, the aggregated level 3 responses indicate a progression in the priority of interpersonal skills from level 2 to level 3, and that the reprioritization of the skills supported the required management functions. Level 3 responses for SQ-8 were arrayed sequentially, and by their relative importance as shown in Table 4-4.

Notably, motivating and inspiring moved from one of the most important interpersonal skills to the least important. At the same time, the level 3 manager ranked teambuilding among the top three interpersonal skills, and listening as the most important skill set. This suggested that the level 3 managers interviewed placed greater value on listening to their direct reports, and focusing on team building and recognizes their obligation to develop the level 2 managers assigned under them.

**Table 4-4. Survey Question 8 – Responses for Level 3**

| <b>Ranking of Interpersonal Skills</b><br><i>(I = Interactive Skills M = Motivational Skills N = Negotiating Skills)</i> |  |   |
|--|--|---|
| <b>Most Important</b>  | <b>Important</b>   | <b>Least Important</b>  |
| 1. Listening - I<br>2. Conveying Information - I<br>3. Team Building - M   | 4. Providing Guidance - I<br>5. Employee Feedback - N<br>6. Fostering Commitment - M<br>7. Mentoring - M | 8. Conflict Resolution – N<br>9. Motivating & Inspiring – I<br>10. Persuading - N |

While conveying information was ranked as number 2, providing guidance or direction has moved out of the top 3 to number 4. This suggested that the level 3 manager is less focused on providing specific direction to his managers and has successfully delegated the day-to-day functions to his direct reports.

Employee feedback, which was ranked as one of the least important for the level 2 manager, was ranked as number 5 for the level 3. This increase in importance for providing employee feedback is indicative of the level 3 managers' commitment to developing the management skills of their first line managers.

**Level 3 Responses to IQ-2, IQ-4, and IQ-5.** Level 3 participants indicated that the interpersonal skills they required on previous jobs were more technical in nature, including organization of technical data, prioritization of technical tasks, and communicating the technical aspects of the project to their subordinates and supervisors. Level 3 participants characterized communication at level 2 as narrower in scope, and as less critical than the next higher level. Primarily, level 3 participants identified effective communication of technical ideas and issues, effective listening, and providing feedback to their superiors as essential interpersonal skills on their previous jobs.

The Division Chiefs' assessments of the interpersonal skills required of the Branch Chief are consistent with both the Branch Chiefs' self-assessment and the communications competencies required for success. While the Branch Chiefs are much

less technical than the level 1 worker, they are still very much technically oriented in terms of cost, schedule, and performance of the project and their communications typically revolve around those issues. As such, the Branch Chiefs communication is primarily with the workers on technical issues, expectations, and performance feedback.

Level 3 Division Chiefs indicated that significant improvement in their verbal and written communications skills was essential for successful performance on their current jobs. They believed that these skills were essential in providing the guidance and feedback necessary to effectively lead their teams or work groups. They identified effective listening as an essential element of productive communication. Improved listening skills, and verbal and written communication skills are essential for the Division Chiefs to successfully select and train first line managers, hold them accountable, and to coach and mentor them. This is particularly true considering most level 2 managers do not progress to level 3 without this mentoring from their Division Chiefs.

The ability to motivate and inspire their subordinates was also identified as a key requirement for building highly productive teams. Most notable in this assessment category was the belief that honesty, and personal and professional integrity, were essential elements for successful performance.

The Division Chiefs appear to have focused on the skills that will enable them to avoid the traps of “inability to delegate responsibility” and “failure to build strong teaming relationships”. This is evidenced by the prioritization of listening, conveying information and teambuilding from SQ-8 and the interpersonal skills identified in the interview for success as a level 3 Division Chief.

Although the Division Chiefs seem to be properly focused on their relationships with their level 2 Branch Chief direct reports, there was little discussion of the level 3 Division Chief role in the strategic vision of the organization, improvements in efficiency, and quality of the work unit.

When asked what interpersonal skills would be required to perform successfully at the next level, level 3 participants clearly recognized that they needed to acquire a broader perspective (i.e., “seeing the big picture”) of their organization’s mission and

objectives. In that regard, they identified the ability to “network,” navigate the “political landscape,” and “think strategically” as essential interpersonal skills. This response is consistent with the competencies identified in *The Army Training and Leadership Development Panel Preliminary Study of Communication Competencies*. The level 4 manager is “primarily responsible for long-term functional perspective and strategy” and “must think strategically about the overall function of the organization.

Level 3 participants also indicated that at the next higher level, they would need to be credible and accomplished public speakers, and be adept at mentoring, teambuilding, and resolving conflict in the organization. Participants believed that resolving conflict required a leader who was willing to listen to all parties, and speak objectively on the issues involved. The ability to resolve conflict is an essential task that will preserve this leadership level’s ability to develop, train and communicate with the direct reports. This leader would also be identifiable as a highly visible representative of the agency or service, and an essential part of managing and shaping the organizational culture through organizational change and strategic vision. Level 3 leaders correctly identified briefing ability and persuasiveness as a key interpersonal skill that is necessary to be successful as a level 4 manager. Participant responses for IQ-2, 4 and 5 at level 3 are shown in Table 4-5.

**Level 3 Responses to IQ-3.** In contrast to responses at levels 2, 4, and 5, level 3 participants did not identify any challenging situations that fell into the category of insubordinate employees. However, they did discuss situations that fell into the other four categories. Again, verbal communication was the predominant skill that was identified followed by team building and persuasion. Verbal communication was used for all four challenging situations, particularly ineffective employees and organizational/personnel issues, while teambuilding and persuasion were essential for seeking cooperation/approval from another agency or contractor and seeking acceptance of a position. Level 3 participants also identified negotiation/mediation, motivation, direction, listening, conveying information, consensus building and information management.

These key interpersonal skills used by the level 3 manager for handling the challenging situations identified are congruent with the skills prioritization, and the skills progression, identified in SQ-8 and IQ-2, IQ-4 and IQ-5.

**Table 4-5. Interview Questions 2, 4 and 5 – Responses for Level 3**

| <b>Identification of Interpersonal Skills in Career Progression:<br/>Responses for Level 3</b>  |   |  |
|---|---|--|
| <b>Previous Jobs<br/>(Levels 1 - 2)</b>   | <b>Current Job<br/>(Level 3)</b>  | <b>Next Higher Level Job<br/>(Level 4)</b>   |
| Communication – Less Critical, Narrow Scope<br><br>Effective Listening<br><br>Provide Feedback<br><br>Organize Technical Data<br><br>Prioritize Technical Tasks<br><br>Communicate “How it is done” | Effective Listening<br><br>Provide Guidance & Feedback<br><br>Improved Written & Verbal Communication<br><br>Honesty & Integrity<br><br>Communicate “Why it is done”<br><br>Teambuilding – Motivate & Inspire | Ability to Network<br><br>Navigating the Political Landscape<br><br>Public Speaking<br><br>Strategic Vision<br><br>Briefing Ability<br><br>Teambuilding<br><br>Mentoring<br><br>Resolve Organizational Conflict<br><br>Leading Change<br><br>Tuned to Organizational Culture |

**Summary of Level 3 Findings.** The level 3 managers ranking of the importance of the ten interpersonal skills considered were slightly changed from the level 2 assessments, and reflected increased importance conveying information and listening to their direct reports, and on teambuilding. There was less emphasis on motivating and inspiring for the level 3 manager than for the level 2 manager. These findings appeared consistent with the change in job responsibilities from level 2 to level 3. However, there seemed to be less emphasis on mentoring, coaching and developing the level 2 leaders than would seem to be appropriate.

The assessment of the interpersonal skills progression from the level 2 manager to the level 4 manager was reasonably consistent with job characteristics for those levels of leadership. The only area of inconsistency appeared to be that the level 3 managers interviewed did not discuss their role in executing the strategic vision or improving the quality and efficiency of the organization. This was a function identified in both *The Leadership Pipeline* and the ATLDP *Preliminary Study of Communications Competencies* as a critical level 3 function.

Finally, interpersonal skills used by the level 3 managers to handle challenging situations were consistent with responses from SQ-8 and IQ-2, IQ-4 and IQ-5, and proved effective in these challenging situations. While there are some slight inconsistencies in the level 3 managers' assessment of interpersonal skills compared with their job responsibilities, the participants appeared to possess the requisite knowledge of the interpersonal skill requirements for success at levels 2, 3, and 4 and have used these skills effectively in the performance of their duties.

#### **4. Interpersonal Skills for the Level 4 Manager**

**Characterizing the Level 4 Manager.** *The Leadership Pipeline* characterizes the level 4 managers as someone who has progressed from managing managers to a functional manager who is responsible for leading functional groups that include areas that are outside of their experience. The functional manager must learn to communicate with a multiple layer group. Communicating effectively becomes more difficult as additional levels are added and people are spread out horizontally as well as vertically in the organization. While level 3 leaders were accustomed to seeing and talking to their direct reports daily, the level 4 managers may be geographically separated from subordinates or simply may not have the time to communicate with them. This leader must learn to trust rather than require frequent interface with his managers. (*The Leadership Pipeline*, pg. 66)

**Examination of Critical Leadership and Communication Skills.** The ATLDP *Preliminary Study of Communications Competencies* showed that the level 4 manager is:

... primarily responsible for long-term functional perspective and strategy. At this level, the most significant skill is that the leader must think strategically about the overall function of the organization. In the Department of the Army, Product Managers are chosen by a competitive selection process. The Product Manager is chosen based on skills and experience that have been exhibited in previous positions. Thinking strategically is in contrast to the previous level where the leader was required to manage an operational aspect of part of the whole function. The Product Manager must think about the job from multiple perspectives. They must manage the product and people, must motivate the people, and must deliver a quality product. They must also be technically competent, being aware of the state-of-the-art technology, but must interact with more people at various levels. He/she will become a skilled interpreter and seeker of information because they do not have all the answers. The Product Manager must learn to transition from talking to listening.

The Product Manager will invest time in developing a functional strategy for his organization. The strategy is based on longer term thinking than previous levels. Typically, three years is the focus window. His strategy must dovetail with the larger plans and goals of the Project Office and Program Executive Office. The Product Manager must allocate time for strategy sessions and communication meetings. Near-term and long-term strategies are the focus of the discussions.

The Product Manager must nurture new work values at this level of leadership. The level 4 leader learns to delegate responsibility because they cannot do it all anymore. They must value the role of developing, training, and communicating with direct reports. They must also understand the long-term strategies and goals of the Project Office and incorporate that knowledge into plans. The Product Manager must have the ability to make trade-off decisions in the program for the benefit of the overall mission of the Project Office. They also learn to value things that are new, unfamiliar, and of little interest to them, but are necessary for the welfare of the program.

At this level of leadership, the most important communication skill is listening. The Product Manager must gather facts and ideas to make informed decisions about the program. They must coordinate with multiple layers of people and organizations. Communications will be internally with staff and technical support, but will also solicit help

externally from contractors, customers, and superiors. Effective communications is more difficult at this level because of the layers, horizontal spread of support personnel, and the normal vertical communications chain. This manager must be able to provide constructive feedback for individuals to improve and do things in the best manner.

Once the Product Manager makes a decision, they must be able to transmit the idea to others. Persuasive briefings and bottom-line memorandums are a necessity at this level of leadership. Often, the briefings are defending the program and its survival.

This level of leadership requires the Product Manager to have an intimate relationship with the Project Manager. The well being of both positions depends on the other. They must be able to learn the intricacies and virtues of their boss. (ATLDP Preliminary Study of Communication Competencies, Pg 14)

**Level 4 Responses to SQ-8.** Level 4 participants ranked motivating and inspiring as the most important skill, followed by providing guidance or direction, and listening as second and third most important and team building as fourth. Conveying information ranked lower among level 4 participants than at the other three levels. Persuading, providing employee feedback and conflict resolution were ranked as the three least important skills which is consistent with the aggregate responses.

From a top-level perspective it is interesting that the level 4, Product Managers, did not have the “negotiating” skills of persuading, employee feedback, and conflict resolution ranked higher. Moreover, only one of the “motivational” skills, motivating and inspiring, is ranked in the top three most important interpersonal skills. In fact, the ranking of the skills for the Product Managers is nearly identical to the ranking of the skills provided by the level 2 Branch Chiefs.

This ranking seems to indicate that the level 4 Product Managers are more focused on the downward communication than the horizontal or upward communication necessary for strategic planning and integration of the various business units. *The Leadership Pipeline* and the ATLDP Preliminary Study of Communications

*Competencies* have stated that the Product Manager must invest time in developing a functional strategy for his organization, that the strategy must focus at least 3 years ahead, and that these strategies must be coordinated and communicated up, down, and across the organization and business units. While the Product Manager is responsible for developing, training, and communicating with Division Chiefs, it is also recognized that the level 4 manager may be geographically separated from his direct reports or may not have the time to communicate with them. In these instances the Product Manager may not have frequent interface with his managers and must learn to trust them.

The level 4 Product Manager is the individual in the organization who has the ability to make trade-off decisions for the project office and once those decisions are made, must be able to develop and deliver persuasive briefings and bottom-line communications to the multiple layers of leadership above.

The ranking of the interpersonal skills provided by the level 4 product managers are not consistent with the communication competencies detailed in *The Leadership Pipeline* or the ATLDP *Preliminary Study of Communications Competencies*. Level 4 responses for SQ-8 were arrayed sequentially, and by their relative importance as shown in Table 4-6.

**Table 4-6. Survey Question 8 – Responses for Level 4**

| <b>Ranking of Interpersonal Skills</b><br><i>(I = Interactive Skills M = Motivational Skills N = Negotiating Skills)</i> |                              |                             |
|--|------------------------------|-----------------------------|
| <b>Most Important</b>  | <b>Important</b>             | <b>Least Important</b>      |
| 1. Motivating & Inspiring – M  | 4. Team Building – M         | 8. Persuading – N           |
| 2. Providing Guidance – I  | 5. Conveying Information - I | 9. Employee Feedback – N    |
| 3. Listening - I   | 6. Mentoring - M             | 10. Conflict Resolution - N |
|  | 7. Fostering Commitment - M  |                             |

**Level 4 Responses to IQ-2, IQ-4, & IQ-5.** Level 4 managers indicated that the interpersonal skills they needed on previous jobs were more focused on the technical

aspects of project management, and on the ability to discuss and solve technical problems. Other interpersonal skills identified included facilitating group collaboration, providing guidance and direction, and teambuilding. A large percentage of the level 4 managers viewed their level 3 jobs as primarily non-supervisory in nature, and still very much technically focused. Others indicated that level 3 leaders played a significant role in change management, and in developing the organizational culture.

The level 4 managers' responses were interesting in that most failed to recognize that the level 3 manager was typically responsible for the greatest number of people in the organization, that the level 2 Branch Chiefs are "empowered" by the level 3 Division Chief, and that the Division Chief is responsible for selecting and training the first line mangers below them. These responsibilities were typically supervisory in nature, and essential to the productivity of the organization. The ATLDP *Preliminary Study of Communication Competencies* identified the level 3 Division Chief as the first level of leadership at which the strategic goals of the organization become important, and further that the Division Chief plays a major role in interpreting and communicating the organization's objectives to the direct reports and the workforce.

In assessing the interpersonal skills necessary for successfully performing in their current jobs, level 4 managers indicated that highly refined verbal and written communication skills were critical to effectively communicate the goals and objectives for the organization, clearly articulate guidance and direction, and foster commitment from the managers assigned to them. Their responses were consistent with the role of the Product Manager as a leader of functional groups arrayed in multiple levels. Effective communication was made more difficult as a result of multiple layers of management, both horizontally and vertically.

Level 4 participants further indicated that leaders at that level of the organization must be effective listeners, possess superior time management skills, and be able to articulate their ideas and guidance in a short, concise form (e.g., putting the 'bottom line' first) to capture the recipient's attention, and convey the critical information in a timely manner. These responses are also consistent with the role of the Product Manager as someone who values the role of developing, training and communicating with direct

reports, who articulates and promulgates the strategic vision and organizational strategy, and whose breadth of communication requires a significant investment of time.

When asked which interpersonal skills would be required to perform successfully at the next level, level 4 managers indicated that they would be similar to those skills they needed on their current jobs. They believed that the level 5 manager's role would emphasize superior written and verbal skills, as well as the ability to convey the organizational mission, goals and strategy to the workforce. "In much the same way that a Product Manager must broaden the focus to think about overall function, the Project Manager must do the same thing." However, "the scope of responsibility for the Project Manager is much broader and must be viewed from an overall business perspective."

Level 4 participants viewed the level 5 manager as someone who must possess a strategic vision, communicates very carefully and diplomatically, and be able to "manage the political influences." Although the Project Manager will typically not get a lot of day-to-day guidance from above they must have knowledge of the "overarching" politics of Government and the defense industry. "He/she must also be adept at speaking to a variety of individuals from subordinates on the project team to Program Managers and customer groups."

They further indicated that the level 5 manager must stay "in-house," to be available and accessible to their subordinates within the organization, while also being responsible for interfacing with their external constituents, stakeholders, and policy makers.

The Product Manager characterization of the role of the Project Manager and the interpersonal skills required for success are reasonably consistent with those identified in *The Leadership Pipeline* and the *ATLDP Preliminary Study of Communication Competencies*. Participant responses for IQ-2, 4 and 5 at level 4 are shown in Table 4-7.

**Level 4 Responses to IQ-3.** As with the level 2 managers, the level 4 Product Managers related challenging situations that fell into all five of the categories identified. The skills for handling challenging situations identified by the Product Managers were very similar to the skills identified by levels 2 & 3 participants. Again, verbal communication skills and listening were the most predominant skill set identified and

along with team building, fostering commitment, persuasion and consensus building, were essential skills for seeking cooperation/approval from another agency or contractor, dealing with ineffective employees, and seeking acceptance of a position. However, unlike the level 2 & 3 participants, the level 4 managers identified honesty, patience, and compassion in addition to motivating/mentoring, conflict resolution, and employee feedback as skills necessary to effectively deal with insubordinate or ineffective employees and organizational/personnel issues.

**Table 4-7. Interview Questions 2, 4 and 5 – Responses for Level 4**

| Identification of Interpersonal Skills in Career Progression:<br>Responses for Level 4   |  |  |
|--|--|--|
| Previous Jobs<br>(Levels 1 - 3)  | Current Job<br>(Level 4)   | Next Higher Level Job<br>(Level 5)   |
| Group Collaboration<br>Problem-Solving<br>Project Management<br>Providing Guidance & Direction<br>Technical Focus<br>Teambuilding<br>Change Management | Communicate Goals and Objectives<br>Effective Listening<br>Clear Articulation of Guidance & Direction<br>Bottom Line Writing<br>Time Management Skills<br>Fostering Commitment | People Skills<br>Convey Organizational Strategy<br>Strategic Vision<br>Diplomacy – Careful Communication<br>Emphasize Speaking & Writing Well<br>Fostering Commitment<br>Management of Government Politics |

**Summary of Level 4 Findings.** The level 4 ranking of interpersonal skills in order of their importance to them reflects that the Product Managers interviewed may be more focused on communicating down the chain of command rather than across or upwards. This suggested that the level 4 managers were more focused on the day-to-day activities than on developing a long-term functional strategy, and promulgating that strategy to the other Product Managers and to the level 5 Project Manager. In addition, the Product Manager is the first level of leadership with the authority to make trade-off

decisions for the product. It is reasonable to believe that developing and delivering persuasive briefings would be a primary function, although persuasion was ranked as one of the least important skills.

The Level 4 Product Managers have a good understanding of their role, the level 5 Project Manager's role and the interpersonal skills required for success at both levels. However, they failed to recognize the job responsibilities and the requisite communication skills required of both level 2 and level 3 managers.

## **5. Interpersonal Skills for the Level 5 Manager**

**Characterizing the Level 5 Manager.** *The Leadership Pipeline* characterizes the level 5 leader as someone who has progressed from a functional manager to a business manager and is responsible for the full spectrum of activities for the business. They need to take the time to learn about each individual discipline and how they are integrated from a total business perspective. This is not difficult on the surface however; the level 5 manager must also learn to value each of the functions appropriately and not become over reliant on any one function. (*The Leadership Pipeline*, pg. 86-87)

**Examination of Critical Leadership and Communication Skills.** The ATLDP *Preliminary Study of Communications Competencies* showed that the level 5 manager is

... primarily responsible for market results, functional balance, and integration. The transition from Product Manager to Project Manager also requires a change in skills, time application and work values. In much the same way that a Product Manager must broaden the focus to think about an overall function, the Project Manager must do the same thing. The difference is that a Project Manager must also focus on learning new functions. The scope of responsibility is much broader and must be viewed from an overall business perspective rather than one that focuses more on functions.

As a result of this cross-functional approach to the work as a Project Manager, this individual must learn to make connections among diverse organizations and the people and processes that make up those organizations. This requires the manager at the Project Level to have the ability to view all organizations equally and to value the work that each contributes to the overall good of the project.

The Level 5 Project Manager must also begin to think more strategically in terms of the short-term operations management of the project and the long-term implications to the overall business unit. A Project Manager needs to find the balance between getting the necessary results at each project milestone and determining how the results will effect the long-term business position.

One area that a new Project Manager must consider in this new role is the use of time and the ability to manage their time appropriately. At this level it is critical to be able to balance the time required within the organization with that spent working with external organizations whether they be contractors or customers.

The person in the Project Manager position will also experience a change in work values. The individual who received guidance from previous managers will find that in the role of Project Manager there is little guidance from above. Leaders above the Project Manager have a great deal invested in the project and will be paying special attention to the new manager and their ability to run the organization efficiently and effectively. Project Managers are watched by subordinates who are often curious about the changes that the new manager will make. They will be watching to determine if that manager exhibits any type of favoritism to their previous organization as compared to the rest of the departments on the project team.

The communication competencies required at the Project Manager level continue to build on those learned from previous levels of the leadership pipeline. A Project Manager must rely on the ability to listen and to assimilate information from numerous sources that are often competing for time and resources within the project.

The Project Manager must also be able to speak to a variety of individuals from subordinates on the project team to Program Managers and customer groups. Understanding the audience and preparing for presentations in a way that emphasizes the ‘bottom-line’ skills is essential to ensure clear and concise communication that can be easily understood by many. At this level, it is important to recognize the appropriate amount of data to include in a presentation.

Another important competency at level 5 is that of written communication. Often Project Managers are asked to provide written documentation surrounding their project. These documents would be used by the Program Manager and where necessary could end up going to the Pentagon. Poorly written documents, whether generated by the Project Manager or someone else on the team will reflect poorly on the overall project. (ATLDP Preliminary Study of Communication Competencies, Pg 16-18)

**Level 5 Responses to SQ-8.** Level 5 managers ranked the grouping of interactive skills of providing guidance or direction as the most important skill, followed by listening and conveying information at number two and three respectively. Team building, persuading, conflict resolution, and motivating & inspiring were ranked number 4 through 7. Fostering commitment, providing employee feedback and mentoring were viewed as the least important skills. Curiously, the ranking of the “interactive” interpersonal skills as the most important resembles the ranking provided by the level 2 managers, and was slightly different than either the level 3 or level 4 managers. Although the “negotiating” skills of persuading and conflict resolution moved up to rankings of 5 and 6 respectively, it would have seemed more appropriate for them to be ranked slightly higher, and for providing guidance and conveying information to be ranked slightly lower.

As discussed in the ATLDP *Preliminary Study of Communications Competencies*, “the Project Manager is responsible for functional balance and integration of all of the products in the business unit.” “The scope of responsibilities for the Project Manager is much broader and must be viewed from an overall business perspective rather than one that one that focuses more on functions.” Level 5 responses for SQ-8 were arrayed sequentially, and by their relative importance as shown in Table 4-8.

**Table 4-8. Survey Question 8 – Responses for Level 5**

| <b>Ranking of Interpersonal Skills</b><br><i>(I = Interactive Skills M = Motivational Skills N = Negotiating Skills)</i> |                               |                             |
|--|-------------------------------|-----------------------------|
| <b>Most Important</b>  | <b>Important</b>              | <b>Least Important</b>      |
| 1. Providing Guidance - I  | 4. Team Building - M          | 8. Fostering Commitment - M |
| 2. Listening - I   | 5. Persuading - N             | 9. Employee Feedback - N    |
| 3. Conveying Information - I   | 6. Conflict Resolution - N    | 10. Mentoring - M           |
|  | 7. Motivating & Inspiring - M |                             |

**Level 5 Responses to IQ-2, IQ-4, & IQ-5.** Consistent with the other levels considered, Level 5 Program Managers indicated that their previous jobs were far more technically oriented than their current jobs. On their previous jobs, routine communication was primarily with their peers, and related to project or technical tasks. Good technical writing skills were essential. They viewed their previous jobs as being more focused on the details, and they did not necessarily need to see the ‘big picture’ perspective of their organization’s mission and objectives.

Given that the level 4 manager was primarily responsible for long-term functional perspective and strategy, and further that the Product Manager must think strategically about the overall function of the organization, it was difficult to understand how the level 5 Project Managers could characterize the level 4 Product Manager as technical. The Product Manager was responsible for cost, schedule and performance of the product but that should not be confused with the “technical” responsibilities that were inherent in the role of level 1, 2, & 3 workers and managers. Further, while routine communication can be predominantly with peers, there should be a great deal of communication both up and down the organization. The level 4 manager must not only understand the long-term goals of the organization, but was also responsible for incorporating those goals into the project plans.

Level 5 Program Managers indicated that highly effective verbal skills, the ability to communicate clearly and concisely, and the ability to provide guidance and direction

to their subordinates were essential interpersonal skills in successfully performing their current jobs. Effective listening was also identified as an essential interpersonal skill. To foster a positive work environment, level 5 Program Managers felt it was important to solicit input from their subordinates, peers, and superiors for consideration prior to making a decision. They also viewed themselves as facilitators, requiring them to have strong “people skills” to achieve consensus, resolve conflict, and motivate their team to perform to the best of their ability. Participants emphasized the need for strong time management and communication skills that would better enable them to balance their available time, and make best use of available communication media. Finally, participants indicated that the Program Managers must be able to quickly simplify complex problems (i.e., get to the ‘bottom line’), but still allow their subordinates to develop and recommend solutions.

The *ATLDP Preliminary Study of Communications Competencies* stated that, “the communication competencies required at the Project Manager Level continue to build on those learned from previous levels of the leadership pipeline.” “A Project Manager must rely on the ability to listen and to assimilate information from numerous sources that are often competing for time and resources within the project.” With this in mind, the assessment of the interpersonal skills required for success as a level 5 Project Manager appears to be consistent with the recognized characteristics and work values.

When asked what interpersonal skills would be required to perform successfully at the next level, level 5 Program Managers believed there would be more emphasis on effective communication skills that would enable them to build consensus, and to provide effective presentations and organizational communication to very large audiences. There was a general recognition that the next level would have a greater span of authority and control. Their communication network would be expanded to include lateral communication across the chain of command, as well as vertical communication both up and down the chain of command.

Program Managers believed that their time management skills would become even more important at the next level. They would need to be able to manage an ‘unmanageable’ schedule, and still take the time to communicate with their subordinates.

They felt their subordinates should never feel that they are inaccessible. Finally, level 5 Program Managers viewed their role at the next level as being “driven by politics,” and more focused on policy issues.

The Project Managers assessment of the interpersonal skills required of the level 6 Program Executive Officer are consistent with the characterization of the role of the PEO as discussed in the ATLDP *Preliminary Study of Communications Competencies*. “The transition from leadership level 5 to 6 can be the most difficult transition for leaders to make. In contrast with the Level 5 Project Managers, the Program Executive Officers at leadership Level 6 do not have the direct, day-to-day control over cost, schedule and performance of acquisition programs.” “While the Program Executive Officer will approve the Program Manager’s plans, strategies, and budgets, they do not run the Program Manager’s programs.” “Instead, the Program Executive Officer must focus on strategic issues that impact all of the business units under their control.” “Doing so will enable this manager to properly allocate resources across the group in order to develop synergy and balance between each business unit.” Participant responses for IQ-2, 4 and 5 at level 5 are shown in Table 4-9.

**Level 5 Responses to IQ-3.** The challenging situations for the level 5 participants also included all five categories of (1) seeking cooperation/approval from another agency or contractor, (2) insubordinate employee, (3) ineffective employee, (4) organizational/personnel issues, and (5) seeking acceptance of a position. Consistent with the findings from levels 2, 3, and 4 responses, the predominant interpersonal skills identified were verbal communication and listening and would seem to be the interpersonal skills that are most important. Along with verbal communication and listening, providing guidance and direction and providing employee feedback were essential skills for effectively handling insubordinate or ineffective employees.

**Table 4-9. Interview Questions 2, 4 and 5 – Responses for Level 5**

| <b>Identification of Interpersonal Skills in Career Progression:<br/>Responses for Level 5</b> |  |  |
|--|--|--|
| <b>Previous Jobs<br/>(Levels 1 - 4)</b>  | <b>Current Job<br/>(Level 5)</b>                                     | <b>Next Higher Level Job<br/>(Level 6)</b>                       |
| Communicate - Mostly with Peers  | Highly Effective Verbal Skills<br>Communication is Clear and Concise | Time Management of Greater Importance                            |
| Communication - Technically Oriented   | Foster a Positive Environment<br>Listening Skills                    | Effective Presentations to Large Audiences                       |
| Communication - Related to Tasks   | Effective Time Management<br>Providing Guidance & Direction          | Consensus Building<br>Increased Emphasis on Communication Skills |
| Developing Effective Work Groups   |  | Expanded Communication – Up/Down/Across Chain of Command         |
| Technical Writing  |  | Advocate of Service and DoD Policies/Viewpoints                  |

Level 5 participants also cited motivation as a necessary skill for ineffective employees. Challenging situations that required cooperation or approval from other agencies or contractors, seeking acceptance of a position, or handling organizational/personnel issues also required interpersonal skills like team building, consensus building, conflict resolution, and feedback.

**Summary of Level 5 Findings.** The ranking of interpersonal skills among level 5 participants did not appear consistent with the roles and responsibilities assigned to the Program Managers. In fact, the interpersonal skills identified as the most important by the level 5 managers was most like those identified by level 2 managers. The emphasis on interactive skills seemed to conflict with the roles of the Program Manager. However, the Program Managers ranked negotiating skills higher than levels 2, 3, and 4 managers, and are consistent with the responsibilities for the Program Manager.

Also of concern is the Program Manager's assessment of the role of the level 4 Product Manager. The level 5 Program Managers interviewed consistently viewed the

level 4 Product Managers as technically focused. This gave the appearance that they did not recognize the Product Managers' responsibilities for cost, schedule and performance of the product and for developing and implementing long-term functional strategies. These areas of concern are not trivial, and would seem to indicate that the Program Managers have not fully transitioned to their new level of leadership.

## **D. LEADERSHIP**

### **1. Leadership Factors - Overview**

The ATLDP Phase IV Civilian Study noted that all Army leaders, both military and civilian, must be proficient in their interpersonal skills in order to support the mission and goals of tomorrow's Army. For this Joint Applied Project study, the study team needed to assess the participants' perspective on the importance of good interpersonal skills in relation to other factors or influences often attributed to effective leadership.

Participant interviews provided valuable insights into their overarching perspectives on the attributes of effective leadership. The interview process was focused on interpersonal skills, but the leadership factors were a key element in the discussions on the knowledge, experience, and training that ultimately impacts on the participants' perspective. This information provided a means of qualitatively assessing their perspectives on effective leadership.

The analysis of participant responses to SQ-7, and the various interview questions, is divided into three sections. First, a quantitative analysis of participants' responses to SQ-7 is provided for each of the four levels considered, and aggregated. Next, the qualitative aspects of the interview questions are provided and discussed as they relate to the leadership levels considered. Finally, the interrelationships between the various leadership factors, interpersonal skills, and training are evaluated.

### **2. Leadership Factors – Quantitative Assessment**

The statistical range, mean, median, and mode for each of the five factors were calculated for each of the four levels individually. The relative ranking of the five factors

was largely reflected in their mean values at each of the four levels, with the relative ranking at level 2 being the most similar. The relative ranking of the aggregated responses, and the responses at levels 2 through 5, for SQ-7 are shown in Table 4-10.

**Table 4-10. Survey Question 7 – Relative Ranking by Level and Aggregated**

| From your perspective, rate the following in order of their importance to being an effective leader (1 = most to 5 = least): | Relative Ranking by Level and Aggregated |         |         |         |            |
|--|--|---------|---------|---------|------------|
|  | Level 2                                  | Level 3 | Level 4 | Level 5 | Aggregated |
| • Effective Communication and Interpersonal Skills   | 1  | 1       | 1       | 1       | 1          |
| • Natural Leadership Ability   | 2  | 2       | 2       | 3       | 2          |
| • Technical Proficiency  | 3  | 3       | 3       | 2       | 3          |
| • Years of Experience  | 4  | 5       | 4       | 4       | 4          |
| • Formal Leadership Training   | 5  | 4       | 5       | 5       | 5          |

Overall, participants consistently ranked effective communication and interpersonal skills as the most important factor contributing to effective leadership. Natural leadership ability ranked as the second most important factor, except at level 5, where it was ranked third. Level 5 participants ranked technical proficiency as the second most important factor, while participants at levels 2, 3 and 4 ranked it third. This would tend to suggest that level 5 participants viewed their career progression to this level due more to their technical skill in performing their job, than any natural leadership ability they possessed. However, a comparison of the relative range and mean values for these two factors at each of the four levels revealed the widest range of responses, and smallest differential in mean values at level 5. This trend suggests that, overall, level 5 participants view natural leadership ability and technical proficiency as nearly equivalent factors in effective leadership.

Based on relative mean values, years of experience and formal leadership training were consistently ranked by study participants, at all four levels, as the two least important factors attributable to effective leadership. Years of experience increased somewhat in its perceived importance to the participants with career progression to the

higher management echelons. This trend should not be surprising as years of experience are typically viewed as a prerequisite for normal career progression. Interestingly, however, years of experience ranked lower than formal leadership training only among level 3 participants. At level 4, the mean values were the same, although corresponding median and mode values supported the ranking of years of experience slightly above formal leadership training.

Formal leadership training also exhibited a slight increase in its perceived importance to the participants with career progression to the higher management echelons. This trend should also not be surprising, as one would expect that more formal leadership training is required and taken at the higher management echelons. However, the consistently low ranking of formal leadership training as a factor attributable to effective leadership should be of concern to the Army as an indicator of the perceived lack or inadequacy of such training for civilian leaders.

Interestingly, with the exception of effective communication and interpersonal skills, the relative mean values for the other four factors were the highest at level 5. This was evident in the tight grouping of the mean values, which made the relative ranking among level 5 participants the least decisive. This trend suggested that these leaders, as a group, recognize the value and benefit of these other four factors.

### **3. Leadership Factors – Qualitative Assessment**

Quantitatively, the data gathered in SQ-7 revealed a decisive ranking of the five leadership factors considered. Interview questions 2, 3 and 6, were designed to supplement and support the participants' responses to SQ-7 by gathering information on, among other things, the skills, knowledge, experience, and training that ultimately impact on the participants' perspective of the five leadership factors. The responses to these interview questions provide the basis for a qualitative assessment of the five factors at each of the four leadership levels.

**Level 2 Interviews.** The majority of level 2 participants ranked effective communications and interpersonal skills as the most important factor attributable to effective leadership. During their interviews, a number of participants made statements

reaffirming their relative ranking of the five leadership factors. The ability to communicate clearly and concisely with subordinates, peers, and superiors was cited by several participants as the most important aspect of their positions. One participant stated that, “Because project work is highly visible, communication skills are critical to the job. Communication downward must be very clear and concise, and communication upward must be received accurately.” Another participant stated, “It is important to communicate clear guidance and direction to subordinates because it avoids wasted time and effort.” Face-to-face, oral, writing, and electronic mail were cited as the most frequently used media for communications among the level 2 leaders.

Many level 2 participants acknowledged a shift from technical skills to interpersonal skills as they became leaders in their current jobs. One participant stated “In previous jobs, interpersonal skills were secondary to technical skills. As more project management responsibilities are needed, the importance of interpersonal skills has increased relative to technical skills.” Many participants also cited increasing responsibility for dealing with personnel matters for their subordinates, indicating a further move toward supervisory responsibilities, and away from the technical responsibilities of the job. The survey reflects the emphasis of communication and interpersonal skills over technical skills with rankings of first and third, respectively.

Formal leadership training was identified by many level 2 participants as the least important of all of the five factors. The general consensus among level 2 participants was that formal leadership training was institutional, and did not address ‘real world’ issues found in the workplace. With regards to development of communication and interpersonal skills during leadership training, many participants indicated that it was virtually non-existent. One participant stated “the formal training currently offered, forced managers into a trial-and-error approach to acquiring and refining their communication skills.” Others expressed their opinions that once an individual is in a supervisory position, it is too late to be developing crucial interpersonal skills. Several participants cited on-the-job training and mentoring as the methods they were limited to use in developing their communication and interpersonal skills. Many participants felt that the current offerings of courses were not the right approach for developing

interpersonal skills. One participant, with formal military training and experience, summed up the situation in this manner:

My formal military training emphasized interpersonal skills, including communication of mission goals, objectives, taking care of your people, and knowledge of your job. In the military, it is considered more important to take care of your people, than to be technically knowledgeable about your job. On the other hand, formal civilian training has not emphasized communication of mission goals or taking care of people. My military service has been more effective in developing my interpersonal skills than any formal civilian training. For civilians, there is not enough emphasis on leadership and management skills in career development training courses.

Level 2 participants identified communications skills as critical for executing their jobs. They indicated that it was necessary for conveying clear and concise information to subordinates, peers, and superiors. Communications and interpersonal skills were deemed to be more important than technical skills at this level. Formal leadership training was found not to be beneficial in developing leadership or communication skills.

**Level 3 Interviews.** Feedback from level 3 participants was similar to that provided by level 2 participants with respect to factors attributable to effective leadership. In SQ-7, participants ranked effective communication and interpersonal skills as the most important factor, and years of experience as the least important. Overall, the theme of clear communications was consistently expressed during the interviews.

Level 3 participants stated that effective communications and interpersonal skills were essential to their job performance. The most frequently mentioned interpersonal skills were conveying information, teambuilding, and motivating. However, the majority indicated that listening was the most important skill at this level. In addition to conveying information and teambuilding, level 3 participants recognized that listening and getting feedback from subordinates was crucial to their job performance. Most acknowledged that listening skills were not as prevalent at the previous leadership level.

During the interviews, it was apparent that level 3 leaders began to use more varied communication media to convey information. Many leaders indicated that they were tailoring messages to their audiences. Oral and written communication transactions (e.g., memoranda and electronic mail) were the most frequently mentioned methods. The level 3 leaders emphasized the importance of effective communications and interpersonal skills to deliver accurate and concise information to others.

In addition to the skills needed for effective communication, several level 3 participants identified the need to have a good working knowledge of human behavior when building a team. One participant stated, "It is important to take care of your people. It is important for them to know that you have their best interest at heart and that you will do your best to help them." As Army civilians progress up the management echelons, some leaders at this level become involved with the supervisory aspects of their employees. This requires addressing tasks and issues outside of the realm of their subordinate's specific work duties. Personnel issues, personal problems, morale boosting, employee rights and responsibilities, rules and regulations, and employee satisfaction are factors the leader must address when looking at the total aspect of their job. Basic behavioral knowledge and training was cited during the interviews as a method to help the supervisor understand why people act certain ways and how to appropriately deal with situations. As a result, the leader is able to build a team that supports mission and organizational requirements.

Level 3 participants revealed that formal leadership training was more important than years of experience. This was the only leadership level that ranked these factors in this manner. Through the interview process, it was apparent that most level 3 leaders placed some emphasis on formal training. They recognized potential benefits of training in areas in which they had little experience. For instance, several participants indicated that training should include practical experiences in a dynamic group environment. This was an indicator that these leaders are dealing with situations in a group or team setting in which they are unfamiliar, and are looking for solutions. These managers also stated that they would like to see more training on basic human behavior.

Level 3 participants reinforced the general finding that communications and interpersonal skills are necessary for their jobs. They began using different types of communication media targeted for specific audiences. Understanding human behavior was also identified as an important aspect of dealing with people, and several participants called for additional training in this area. Finally, several level 3 participants recognized the value of adequate training, and emphasized that it was beneficial to their career progression.

**Level 4 Interviews.** Level 4 participants' ranking of the leadership factors was the least decisive of all four leadership levels considered. While effective communications and interpersonal skills ranked as the most important factor attributable to effective leadership, there was a different emphasis at level 4 with regard to the interpersonal skills required, and communication media chosen. There was surprisingly little, or trivial, discussion with level 4 participants on the other four leadership factors.

A majority of the level 4 participants reiterated that motivating, providing direction, and conveying accurate and understandable information were important in their current positions. However, the methods used for communications were different than previous levels. Many participants indicated that face-to-face communications was their basis for conveying information to others. One participant, when asked to elaborate on the importance of face-to-face skills, stated that "In prior positions, I was a product leader or engineer, but being a program manager made me realize that you really have to communicate to be effective and accomplish your goals. I have realized along the way that a little better communication [face-to-face] may have prevented some of the problems that we had." The participant further stated that, "More leadership has meant communicating the right things to the right people at the right time." This individual's focus had clearly shifted from the technical aspects to effective communications, and the method that was most effective for him was face-to-face communication. Another participant indicated that face-to-face communications increased significantly when he moved to his current position. He emphasized that face-to-face interaction is a two-way street, and there can be no ambiguity. Level 4 leaders rely heavily on face-to-face communication as their primary medium.

The next most emphasized interpersonal skill was being a good listener. While mentioned in previous leadership levels, the ability to be an effective listener was stressed by more participants at this level. One participant indicated that his job is all about active listening and gathering feedback from his subordinates. He emphasized that one must be able “weed out the relevant nuggets” from conversation, and use that information as the basis for decision-making. Another participant stated that, “listening to employees for career goals and development is an important and necessary function of my job.” Listening was identified as being more important than writing or oral skills at this level.

Level 4 participants indicated that communications with others was the most important factor in their daily activities. More leaders at this level found the medium of face-to-face communications as the most appropriate technique for conveying information or motivating others. Listening was found to be a key interpersonal skill at this level. It was apparent that, as the role of the leader changes across the levels, the method for communicating changes as well.

**Level 5 Interviews.** Responses among the level 5 participants followed a similar trend as the other leadership levels in ranking leadership factors. However, the mean values were generally lower than corresponding mean values for the other three levels or aggregated values. This suggested that level 5 managers are more diverse in their perspective and opinions regarding the relative importance of the five factors attributable to effective leadership. Leaders at this level tend to have a great deal of work experience, and have honed their interpersonal skills to the point of knowing what works effectively, and equally important, what does not work. Most participants emphasized that effective communications were key to performing their routine job duties.

Clear communication was the primary theme expressed among the level 5 participants. One participant indicated that clear communications was essential for making the important decisions. In his words,

You must have the ability to clearly communicate and listen. You must be able to hear what others are saying and to make decisions based on that knowledge. This is a two way street. The senior leadership does not do all the talking – it has to rely on input from the staff, who are the subject

matter experts. The leader cannot make an informed decision if they do not have adequate input, data, and communications from staff. You learn to listen for the questions that are not directly spoken or asked. To gain information, pass information, and to help others – this must be done by hearing and talking with people. At that point, the leader is ready to make an informed decision that has potential ramifications for the organization.

Several of the participants indicated that clear communication at level 5 required the use of all of the ‘tools’ and resources that were available to them. Good basic verbal, non-verbal, written, and oral skills were considered as essential among level 5 participants to enable them to master other interpersonal skills such as listening, mentoring, conveying information, teambuilding, listening, and motivating. They did not dwell on one specific method or skill, but tailored their skills as appropriate for the situation or the audience.

Consistent with the other three levels considered, formal leadership training was found to be the least important factor contributing to effective leadership. When asked about leadership training that focused on interpersonal skills, one participant made the following comments:

The military focused on developing interpersonal skills in training. In the military, the person carries the rank. A military person, who is at a certain rank, will already have captured certain training, including interpersonal skills. His capabilities are known ahead of time. In the civilian world, the job carries the rank and they do not get offered that training until they are in the position. Civilians are not trained for the next job and this should be changed. Civilians should be identified early in their careers and given the necessary training to equip them as future leaders.

Leaders at this level recognized the benefits of training targeted towards development of communication and interpersonal skills. However, it was apparent that current Army civilian training does not adequately address improvement of these skills. The emphasis was on improving basic supervisory skills, rules and regulations regarding interaction with subordinates, or teambuilding and group dynamics. The participants at

this level recognize that a good leader is one who can communicate clearly and use a variety of interpersonal skills to accomplish the job.

## **E. FORMAL TRAINING**

### **1. Army Civilian Leader Development Core Curriculum - Mandatory, Recommended, and Other Training**

The Department of the Army requires that newly appointed supervisors complete the on-line Supervisors Development Course (SDC) within six months of their appointment, and then complete the one-week Leadership Education and Development (LEAD) course. Unfortunately, taking these mandatory classes is typically not enforced, nor is there a system in place to ensure that they are completed within the required timeframe. Of the 29 participants who completed the SDC, only 16 had completed the second required follow-on course, LEAD. Only eight participants completed the Management Development Course (MDC), which should have been completed by nearly every participant at level 3 and higher.

One reason so few participants took advantage of the Intern level courses is that civilian personnel can be hired at any grade. Many civilians are hired in at higher levels, and simply bypass the requirement to take the Intern level courses.

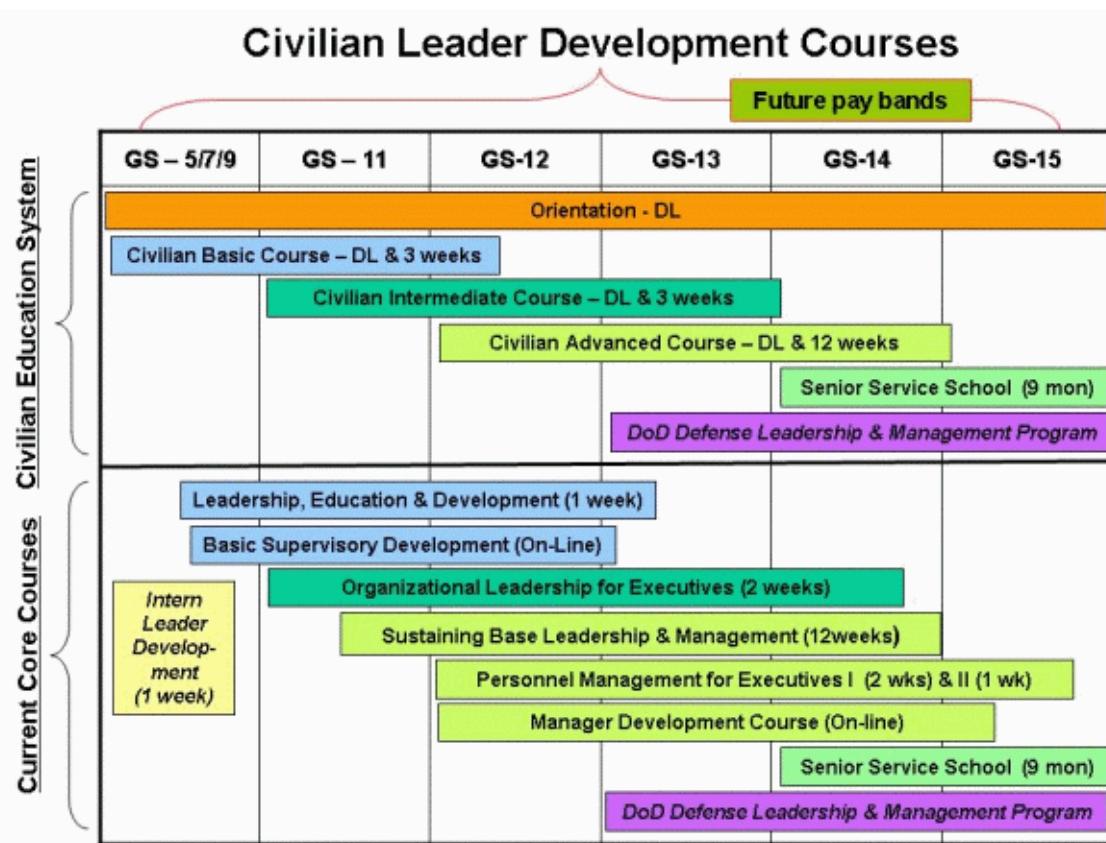
Even fewer participants took the Executive level courses. This is primarily due to different pay grades of Army civilians at level 4 and 5. In order to register for Executive level courses, individuals must typically be in the Senior Executive Service. Of significance is that there are six mandatory courses at the Executive level, and only three courses required for the Supervisor and Manager levels combined. This reinforces the observation that the Army waits until the civilian leader is in a higher position before requiring formal leadership training.

Recommended courses such as Sustaining Base Leadership and Management (SBLM) and the Defense Leadership and Management Program (DLAMP) require a long-term commitment from the Army civilian enrolled in the courses, as well as their supervisors. This accounts for the decreased number of participants in these programs,

compared to the short-term courses such as Personnel Management for Executives and Organizational Leadership for Executives.

Another deterrent to enrolling in and completing formal leadership training is the cost associated with the courses, and the necessity for travel to attend the training. Some of the formal leadership courses cost \$2,500 or more, not including travel expenses. Most organizations do not have the training budget to cover this cost, as well as the lost work contribution of the employee in student status. As stated in the Sep/Oct 05 edition of the Defense AT&L magazine, “Acquisition is a core Government requirement, but one would never know that based on the minimal funding streams available from the agencies to continually educate and train Government’s acquisition professionals.” This article primarily referenced acquisition training, which is mandatory. If little funding is available for mandatory training, there is less available for optional leadership training.

The Army is in the process of replacing the Civilian Leader Development Core Curriculum with a new Civilian Education System (CES). The CES will be implemented beginning in the fiscal year 2007, with completion scheduled for fiscal year 2008, assuming that sufficient funding is made available to support the program. The new CES is anticipated to provide more “progressive and sequential leadership development” ([www.cpol.army.mil/library/permis](http://www.cpol.army.mil/library/permis)). A comparison of the existing Civilian Leader Development Core Curriculum and the new CES is outlined in Figure 4-1.



**Figure 4-1. Comparison of Civilian Leader Development Courses**

According to an October 13, 2005 article entitled “Civilian Education System (CES) being developed by AMSC,” the Orientation Course was developed for civilians entering the Army with various levels of previous experience. Course instruction will be delivered through distributed learning (DL). The Basic Course was developed for leaders who have direct supervisory authority, and responsibility for leading teams. The Intermediate Course was developed for leaders having direct supervisory authority, as well as indirect supervisory (i.e., management) responsibility. The Advanced Course was developed for leaders who have indirect supervisory responsibilities. The Senior Executive Service School and the DLAMP will remain the same under the CES.

## **2. Development of Interpersonal Skills**

The ATLDP Report recognized that interpersonal skills were “pivotal to leader competence,” and recommended that interpersonal skills development be emphasized. The report states that interpersonal skills should be taught to civilians, and civilians that exhibit these skills should be selected as Army leaders. The interviews conducted in this study served to support and reinforce the ATLDP survey finding that interpersonal skills are not emphasized, especially in formal training.

Two of the mandatory courses within the Army Civilian Leader Development Core Curriculum, SDC and MDC, are on-line courses. The SDC provides processes for personnel management, and techniques for managing work and leading people, while the MDC focuses on time management, planning, equal opportunity employment, ethics, internal management control, and information technology applications. Since there is no interaction with other students or an instructor, it is difficult to develop and reinforce the necessary interpersonal skills.

The LEAD is a one week course that concentrates on situational leadership, motivation, communication, counseling skills, conflict management, group development theory, team building, problem solving and decision making, values and ethics, and systems theory ([www.cpol.army.mil/library/permis](http://www.cpol.army.mil/library/permis)). This course offers discussions on interpersonal skills, and provides a tool kit for new supervisors to use, and experiment with, on their own personnel. However, the LEAD course does not emphasize the interpersonal skills identified by the participants as being most important to them in performing their jobs, specifically, providing guidance and direction, and listening.

## **3. Improving Leadership and Interpersonal Skills**

**Timeliness of Training.** It is not only important to have a well-defined curriculum for leadership training, but the training must be offered early in the civilian’s career. Waiting until the civilian becomes a supervisor and mandating training that focuses on interpersonal skills is the incorrect approach. Organizations within the Army should review their talent pool and identify the future leaders, and encourage these

individuals to accept increased responsibility and enroll in leadership training. Completion of leadership courses would be another clear indication of an individual's desire and preparation for advancement.

**Appropriateness of Training.** *The Leadership Pipeline* suggests that the “best method of training...involves hands-on learning activities...” Hands-on learning activities are not experienced through on-line courses. Unfortunately, the current Army Civilian Leader Development core curriculum has two of the three required courses at the supervisor and manager level as on-line instruction. The Leadership Education and Development Course and the Organizational Leadership for Executives (OLE) course have hands-on activities, yet many civilians are not afforded the opportunity, or do not take advantage of these courses.

It is not only important to have hands-on learning activities, but the activities should also be based on real world experiences for Army civilian employees. If a course offers experiences that can easily be translated to situations in the workplace, the student will more easily grasp and apply the knowledge when they return to their office. After the completion of the OLE course, the instructors solicit feedback from the student as well as the student's supervisor to see if the lessons of the course are being put to practice. Unfortunately, less than a third of the participants in this study completed the OLE course. The feedback and hands-on experiences gained in the OLE course are reasons for recommending the course for all civilians rather than just managers.

The Army should leverage the leadership training opportunities that exist in the private sector. Interview participants indicated that career development training in the private sector was far more meaningful and helpful than formal Government training. Not only should the Army leverage training programs in the private sector, but also they should emphasize the importance of courses attended predominantly by military personnel. Only five of the participants indicated that they had attended a Senior Service College (e.g., Army War College or Industrial College of the Armed Forces (ICAF)).

**Mentoring.** Mentoring can be a formal, organized effort where the organization assigns a less experienced civilian employee to known leaders within the organization, or

it can be a naturally occurring process where relationships are built with someone at a higher level of management or in another department. Both forms of mentoring can have a positive influence on the growth of future leaders if conducted correctly. Career development assignments are intended to be mentoring opportunities to groom individuals for promotion to leadership positions. Unfortunately, these assignments are often non-productive in nature, and commonly referred to as “executive gophers.”

**Cross Training.** Two excellent opportunities for career development and leadership training have been implemented for Army civilians, specifically, the Regional Developmental Assignment Program (RDAP), and the Competitive Development Group (CDG) program. The RDAP allows civilians to work in another organization within their commuting area for one year before returning to their parent organization. Through the RDAP, the participant is exposed to other organizations’ cultures, processes, and leadership styles. The CDG program is a three-year program that allows participants to work in other areas and gives them priority when enrolling in selective leadership training opportunities such as the Harvard seminars.

**Career Development.** Other than the Civilian Leader Development Core Curriculum, the Army has no recognized training standardization or progressive education to address communication and leadership competencies at various levels of civilian leaders. Military officers have a clear career progression to include formal training courses as well as on the job training. As stated in the ATLDP Report, “The Army grows and develops the best soldiers in the world – and trains them to be leaders. However, growing Army civilian leaders has fallen short of that requirement.” (page 2, ATLDP Report) The U.S. Army, as a result of the Defense Acquisition Workforce Improvement Act (DAWIA), established goals for acquisition professionals with a detailed plan on the courses and experience required to achieve each level of acquisition certification. Civilians are encouraged to successfully complete acquisition training in multiple disciplines to achieve career progression. However, very few leadership and interpersonal skills are emphasized in the acquisition courses, yet interpersonal skills are “pivotal” for good civilian leaders. In order to develop future leaders, the U.S. Army

must develop a progressive leadership career development path to include definitive courses that emphasize interpersonal skills and other leadership tools.

Today, many Army civilians must obtain leadership training on their own. They must research the training opportunities available, and then must secure the necessary funding within their home organization in order to take these courses. Their supervisor must be willing to support and accommodate the time away from the job that training requires. Supervisors may discourage an individual from pursuing training opportunities for the impact it could have on the organization's mission. Proper leadership training needs to be a priority for Army civilians, but not at the expense of the mission.

Many of the participants in the study complained that civilians are put into supervisory and management positions because they have done well technically, but they lack the training and ability to be an effective leader. Often, becoming a supervisor or manager is the only way to get promoted. The Army needs to have an alternate career path for those who excel in technical fields, but do not have the desire or interpersonal skills required to be a manager or supervisor.

## V. FINDINGS AND CONCLUSIONS

### A. INTERPERSONAL SKILLS REQUIRED (RQ-1 THROUGH RQ-3)

#### 1. What Do Studies Show About the Level of Interpersonal Skills Among Army Civilian Leaders? (RQ-1)

The ATLDP study, conducted between August 2001 through September 2002, addressed leader development for officers, non-commissioned officers, warrant officers, and civilians.

The ATLDP believed that the gap in interpersonal skills development was significant and debilitating. The ATLDP Phase IV Civilian Study Report indicated that, “*...leadership is about influencing others within the context of a relationship...*” and further that, “*...interpersonal skills are critical to the ability of leaders to persuade, motivate, develop, and manage constructive working relationships with others.*” The report concluded that Army civilian leaders must be proficient in interpersonal skills to support the Army of tomorrow. These interpersonal skills included motivating and inspiring, fostering commitment from subordinates, and building strong working relationships and teams, with communication as the key skill that is required to accomplish those goals. Army civilians, SES employees, and General Officers interviewed by the ATLDP believed that interpersonal skills were the most important leadership dimension for today’s and tomorrow’s leaders. However, the ATLDP study findings revealed that Army leaders are seen as, “*...less effective in the critical dimension of interpersonal skills than in their technical competencies.*”

This Joint Applied Project study validated the gap in interpersonal skills identified in the ATLDP Phase IV Civilian Study Report. This study found that while possessing strong interactive skills is essential at all levels of management, they should be most apparent at the first line supervisor level, or the level 2 Branch Chief. With career progression, and the transition in job responsibilities from a level 2 Branch Chief through a level 5 Program Manager, there should be a corresponding transition in the interpersonal skills necessary to succeed at those levels. In other words, there should be a

more defined and noticeable transition to the use of motivating and negotiating skills that the ATLDP viewed as essential leadership characteristics. That is not to say that the leader will stop using interactive skills with career progression, rather there will be a change in the skills that are emphasized. Although the skills identified changed at each level of leadership, the changes were very slight. In addition, while the level 2 skills identified were consistent with the job responsibilities, the degree of consistency decreased as personnel progressed to the higher echelons of management.

It was also noted that, generally speaking, each leadership level viewed the level below them as primarily technical, with a narrow scope of communication. Although this was obviously a correct assessment made by the level 2 Branch Chief; and partially true from the level 3 Division Chief's perspective, it was an inaccurate assessment for the level 4 Product Manager, and level 5 Program Manager to make. Furthermore, levels 3, 4, and 5 all perceived the next higher level as being somewhat political, requiring the ability to network, to possess a more strategic view of the organization and its mission, and demonstrate more diplomacy. While this is true with career progression, it was surprising that none of the levels believed that to be true of the level below them.

Although the detailed analysis revealed a good general understanding of the responsibilities of each leadership level and interpersonal skills required, when considered in the aggregate, there appeared to be a slight degradation of interpersonal skills relative to job responsibilities as the leaders progressed to the higher echelons of management. In addition, there appeared to be a general perception by participants at all levels that the level below them was more ‘technical,’ and the level above them was more ‘political.’ This view of the leadership pipeline was also consistent with the apparent degradation in interpersonal skills progression.

## **2. What Interpersonal Skills are Required for Various Levels of Army Civilian Leaders? (RQ-2)**

The Joint Applied Project team identified ten key interpersonal skills necessary for success as an Army leader, specifically; providing guidance and direction, conveying information, listening, motivating and inspiring, team building, mentoring, fostering commitment, persuading, providing employee feedback, and conflict resolution. These

ten interpersonal skills formed three groupings of skills: interactive skills, motivational skills, and negotiating skills.

Interactive skills involve the direct interaction between the manager/supervisor and his/her superiors, peers, and subordinates, and support the routine communications required for their jobs. Routine communication transactions, specifically providing guidance and direction, conveying information, and listening, were identified as interactive skills for this study. Overall, study participants at all four levels considered, ranked the interactive skills as most important to them in performing their jobs.

Motivational skills are focused on creating a workplace environment that is conducive to employee productivity, team building, and individual career growth. The motivational skills identified for this study were motivating and inspiring, team building, mentoring, and fostering commitment. Study participants at all four levels considered, ranked motivational skills as less important to them than the interactive skills in performing their jobs. These skills tend to be subjective, and thus difficult to characterize and assess their impact on individuals or groups in the organization. They also tend to be less routine in their application than interactive skills.

Finally, negotiating skills are focused on resolution of problems where conflicting ideas, opinions and perceptions need to be resolved. Negotiating skills identified for this study were persuading, providing employee feedback, and conflict resolution. Study participants at all four levels considered, ranked negotiating skills as the least important to them in performing their jobs. These skills tend to be highly subjective, and difficult to gage their effectiveness in a given situation. The application of negotiating skills tends to be associated with negative situations (i.e., situations where some form of conflict is involved). Participant responses to IQ-3 consistently identified the application of negotiating skills as critical in resolving personally challenging situation.

In characterizing the tasks and responsibilities, the level 2 Branch Chief must be adept at defining and delegating tasks and communicating expectations to subordinates. They must also be capable of providing feedback on their performance, as well as coaching and motivating their subordinates to ensure they are performing to the best of

their ability. Moreover, they must be capable of recognizing and rewarding their subordinates for good performance.

To accomplish these objectives, the level 2 Branch Chief must possess strong interactive skills that will permit him/her to perform his primary duty of providing guidance and direction, conveying information, and listening to the workers. The Branch Chief must also apply the motivational skills in order to coach and motivate their employees, and maximize both productivity and job satisfaction. Finally, the Branch Chief must occasionally use the negotiating skills to resolve conflict in the work groups, provide negative feedback to employees, and to develop and present persuasive reports and briefings. Although motivational skills are used less frequently than the interactive skills, and negotiation skills are used less frequently than motivational, they are nonetheless an important element of the Branch Chief's toolbox of interpersonal skills.

The level 3 Division Chief is primarily responsible for management functions and for coaching the Branch Chiefs. The Division Chief must be willing to empower subordinate Branch Chiefs by appropriately delegating responsibility to them. To be successful at level 3, the Division Chief must select and adequately train subordinate Branch Chiefs, and hold them accountable for their decisions. To accomplish this, the Division Chief must make it a priority to assess and evaluate subordinate Branch Chiefs, and dedicate his time to their career development, training and coaching.

The transition from a level 2 Branch Chief to a level 3 Division Chief requires a corresponding transition from reliance on the interactive skills, to the skills of motivating and inspiring, team building, mentoring, and fostering commitment. These skills should not only be more dominant, but should also represent the focus of any leadership training targeted at this level. The negotiating skills of persuading, employee feedback and conflict resolution should also become more prevalent as the level 3 leader seeks to improve the performance of his managers, balance the activities in the business units, and implement the strategic vision of the organization.

The level 4 Product Manager is responsible for long-term functional perspective and strategy for the products within his cognizance. The Product Manager must think

strategically, and balance the inputs from the competing competencies. They must motivate the people to deliver a quality product. The Product Manager must make the transition from talking to listening, and become a skilled interpreter and seeker of information. The Product Manager is required to make many cost, schedule and performance trade-off decisions and must be adept at developing and delivering bottom-line and persuasive briefings.

At this point in his/her career development, the Product Manager must have successfully mastered the interactive skills, and possess a very strong grasp of motivational and negotiating skills. Moreover, these skills would need to be routinely used to successfully perform assigned tasks.

The level 5 Project/Program Manager is responsible for multiple products and Product Managers. He/she is responsible for the functional balance and integration of these products. The Project Manager must make connections among diverse organizations and the people and processes and must be able to manage their time appropriately. The communication competencies are similar in nature to the level 4 Product Manager in that he/she must be able to listen and assimilate information from subordinates, peers, and superiors.

Like the level 4 Product Manager, the level 5 Project/Program Manager must rely very heavily on motivational skills, but should spend more time using negotiating skills. Like the other three levels considered, the level 5 manager must have a mastery of the interactive skills.

### **3. How Do These Skills Differ Among the Various Levels? (RQ-3)**

The three distinct groups of interpersonal skills, namely; interactive, motivational, and negotiating skills, represent the interpersonal skills continuum. All of the skills in the continuum are applicable to all levels of leadership, but the skills that are emphasized change as the leader moves up the leadership pipeline. It is important to understand that there is significant overlap in the interpersonal skills from one level of leadership to the next; however, as the skill requirements, time applications, and work values change, there must be a corresponding and distinct change in the interpersonal skills used.

The level 2 Branch Chief should rely primarily on interactive skills for executing his day-to-day tasks, make frequent use of motivational skills and occasional use of the negotiating skills. The level 3 Division Chief should have mastered the interactive skills to the point that they are “second nature.” He should rely most heavily on motivational skills, with frequent use of the negotiating skills.

The transition to a level 4 Product Manager requires the leader to become much less technical, and more focused on issues that impact all of the core competencies of the product. Like the Division Chief, the Product Manager should have mastered the interactive skills. Recognizing that the Division Chiefs are wholly responsible and accountable for their areas of expertise, the Product Managers efforts should be primarily focused towards the motivational skills of teambuilding, mentoring, fostering commitment, and motivating and inspiring, and should have mastered those skills as well. The Product Manager must also be highly adept in the use of negotiating skills, as these skills will be called into play frequently to defend budgets, and justify plans and strategies for the program.

Much like the level 4 Product Manager, the level 5 Project/Program Manager is focused on issues that impact all of the core competencies, and also all of the products that are part of the project office or program. The interpersonal skills requirements are very similar, but the number and the complexity of the problems and issues increase significantly. The Project/Program Manager will rely more on negotiating skills than any other level below, and will make almost daily use of the motivational skills as well.

In addition, while all leaders share in the responsibilities to monitor and evaluate performance, recognize superior performance and counsel poor performance, many positions do not have supervisory authority. Leaders with direct supervisory authority must be proficient in negotiating skills that are essential to perform these supervisory functions. This represents a slight deviation from the continuum theory presented above, since supervisory functions can be assigned at any point from the level 2 Branch Chief through the level 5 Project/Program Manager. Interpersonal skills training for supervisory personnel should address this need regardless of the management level of the individual.

## **B. DEVELOPMENT OF INTERPERSONAL SKILLS (RQ-4 THROUGH RQ-6)**

### **1. Where Do Leaders Develop Their Interpersonal Skills? (RQ-4)**

One objective of this report is to identify measures that may be adopted to enhance development of interpersonal skills. To accomplish this objective, we must first understand where leaders develop their interpersonal skills. Interpersonal skills are “learned” through life experiences, peer interactions, cultures/environments, mentorship, and formal training. Although life experiences provide a base for future development of the civilian workforce, these experiences do not necessarily prepare civilians for future leadership positions within the Department of Defense (DoD). Therefore, the DoD must concern itself with development strategies that take advantage of measures that can be controlled within supervisory duties, policy, and culture changes.

Respondents ranked communication and interpersonal skills as the most important factors in being an effective leader. However, the same respondents stated that formal training was the least important factor. This suggests that natural leadership abilities and on-the-job experience (e.g., learning by doing) are the more effective means to developing future effective leaders. This hypothesis predisposes the assumption that our current leaders have the interpersonal and communication skills necessary to effectively mentor or develop their subordinates. While the respondents who were targeted for the surveys were managers and supervisors known to have superior skills, this is not necessarily the case with the entire civilian workforce.

It is clear that today’s civilian workforce is not significantly developing their communication and interpersonal skills through a structured development program or training. Additionally, the very nature of an acquisition program (i.e., a Program Management Office) does not lend itself to developing future leaders with interpersonal skills necessary for supervisory positions. Program Management Offices often place more emphasis on hiring those with superior technical attributes. Level 1 and 2 personnel routinely attain GS-13 positions without ever having supervisory duties.

Unfortunately, this leads to many senior level positions (i.e., GS-14/15) filled with personnel obtaining supervisory duties for the first time in their career.

To quote an old adage, “you can’t teach old dogs new tricks,” many senior acquisition critical positions are filled with personnel who do not possess the prerequisite interpersonal or communication skills (or are unwilling to learn new skills in the later stages of their career). Many times these senior personnel diminish the value of continued educational opportunities for themselves and subsequently do not support training for their subordinates. These “old school” leaders often view development opportunities as wasted time away from their primary project related duties.

Where are interpersonal skills developed? The data and studies show that development of effective skills must begin early in one’s career and continue as iterative and progressive learning processes. Although the respondents surveyed and interviewed for this report begins (nominally) at the GS-13 level, development and training should begin much earlier. Acquisition Workforce members are required to maintain and Individual Development Plan (IDP) outlining certifications and training for their current positions and for future development (e.g., long-term: 3-5 years). While most supervisors have emphasized obtaining acquisition specific certifications, there is little or no emphasis given to succession planning through training subordinates on effective communication and interpersonal skills.

## **2. Are Interpersonal Skills Adequately Developed in the U.S. Army? (RQ-5)**

As stated in the ATLDP Phase IV Civilian Study report, interpersonal skills are not being adequately developed for Army civilians. This finding was confirmed by the participants in this Joint Applied Project study; however, the participants at all levels except level 3, responded that formal leadership training was the least important in becoming an effective leader. This response may be a result of the current leadership training, specifically; the Civilian Leader Development Core Curriculum, not emphasizing the interpersonal skills necessary for successful job performance.

Many of the participants indicated that the leadership training they had attended simply did not address any interpersonal skills, or lacked sufficient detail to be meaningful or helpful. Those participants noted, however, that the training did cover some of the critical interpersonal skills, such as conveying information and teambuilding, as the primary focus. Although conveying information was one of the primary skills covered in the formal training, participants indicated that more emphasis was needed in the areas of conducting briefings, and public speaking skills. These oral communication skills are generally required at all levels of management, and require continuous improvement.

The participants also wanted more emphasis on employee feedback, counseling, and conflict resolution. These skills may not be used as often as listening, motivating, and teambuilding, but they are some of the more difficult skills to master.

### **3. What Might Organizations Do to Better Develop These Skills? (RQ-6)**

As highlighted in the ATLD report, the military has “a system consisting of mandatory structured, progressive, and sequential courses with a timeline for attendance.” Many of the participants in this study indicated that they would like to have a system structured similar to the military system. A structured program with well-developed leadership courses, and meaningful job rotations, would allow civilians to progress through the different management levels with more standardized training and experiences.

The current Army core curriculum for formal leadership training and development is being restructured as the Civilian Education System. Communities, such as Redstone Arsenal, are developing their own curriculum and training opportunities for leadership training. MG Pillsbury, Commanding General of the U.S. Army Aviation and Missile Command (AMCOM), has established an NSPS Executive Implementation Team, which will assist in the transition of Redstone personnel from the general service pay system to the new NSPS.

As part of that transition, courses in leadership are being offered for supervisors. Examples of classes offered include: Communication Skills for Leadership, An Essential

Guide to Giving Feedback, Guiding Conflict Resolution, Developing Effective Communication, Developing Interpersonal Expertise, Dealing with Difficult People, Motivational Leadership, and a host of other courses dealing with change management and interpersonal communication. While some of these courses are on-line, for which study participants expressed a strong dislike, they do have potential for emphasizing leadership skills. Unfortunately, it has taken a major restructure of the civilian pay structure in order for these types of leadership classes to be given the importance and recognition they deserve.

Major installations, such as Redstone Arsenal, which support a large civilian population offer leadership courses and seminars on a routine basis. By conducting local courses, the command is able to save on travel funds and take advantage of economies of scale by enrolling large numbers of participants.

## **VI. RECOMMENDATIONS**

### **A. RECOMMENDATIONS FOR ARMY ACTION**

Over the course of this study, the Joint Applied Project team ascertained ways for improving interpersonal skills from survey and interview participants, research into what training is available today, and our over 100 years of combined Government experience. The team recommends the following ways to improve Army civilian interpersonal skills:

- Offer viable technical career path opportunities for individuals who do not wish to pursue a management/supervision/leadership career path. Too often, individuals that display great potential in technical areas lack the interpersonal and leadership skills to make an effective contribution to the organization at a higher level.
- Establish a viable, structured program for development of leadership and interpersonal skills. This structured program should consist of required leadership training (in addition to any acquisition certifications that are required) and rotational assignments similar to the military training.
- Emphasize the need for leadership training, and establish a budget that promotes leadership training. With the downsizing of defense resources, many organizations are finding it difficult to support training. The Army should set aside funding for potential and promising leaders to use for enhancing leadership skills.
- Enforce completing mandatory training by including it in performance objectives.
- Identify the future Army leaders early and structure their career path with formal leadership training as well as mentorship programs.
- Since the majority of civilians are not accustomed to taking long-term training classes where they are away from home and the office for long periods of

time, break long courses up into small work units to entice civilians to enroll in long-term leadership courses.

- Leadership training, especially where interpersonal skills and communication are emphasized, should be conducted with an instructor in real-time versus on-line. Courses are more effective with instructor and peer interaction.
- Encourage rotational assignments, especially for those employees in supervisory roles. Demand that employees remaining in the same job for 10 or more years experience a rotational assignment.
- Development of subordinates' interpersonal skills should become mandatory for all supervisory positions, and formally documented in their performance standards. Without structured metrics and standards, supervisors will not make development of their subordinates a priority.
- Begin the development of requisite interpersonal and communication skills at the intermediate technical levels (e.g., GS-7/9/11).

## **B. RECOMMENDATIONS FOR FURTHER RESEARCH**

This research study focused on the formal training delineated in the Army Civilian Leader Development Core Curriculum, which consists of entry-level to executive leadership training. Now that the Army is revising the curriculum to the Civilian Education System, it is recommended that the new courses be reviewed to determine whether emphasis is being placed on leadership skills, specifically, interpersonal skills.

Several participants stated they had participated in effective leadership courses offered in the private sector. Further research should be completed to determine what courses are offered in the private sector (or other services or organizations such as the Federal Executive Institute) that might enhance leadership skills rather than creating a specialized curriculum for Army civilians.

Two of the study participants were in their current job for 10 years or longer. It would be interesting to determine what impact this has on an organization, especially those employees that are in supervisory and leadership positions. Having an employee remain in the same position for numerous years stifles new experiences and creativity from the organization, yet it is beneficial to have a corporate knowledge base. Where is the break-even point?

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## **APPENDIX A. SURVEY QUESTIONS**

### **An Identification of Interpersonal Skills for Building Army Civilian Leaders**

In February 2003, the Army's Training and Leadership panel delivered a report that identified key leadership requirements for current and future Army civilians. Among the areas identified as most important to effective leadership were interpersonal skills. This purpose of this MSPM research project is to identify specific interpersonal skills that contribute to effective leadership.

We ask that you take a few minutes to complete the survey questions below and to allow us to conduct a short interview to learn more about this important leadership topic. Your identity will be held in strict confidence. All data will be aggregated so that specific information will not be attributed to any individual.

#### **Survey Questions**

1. What is your current job title? \_\_\_\_\_
2. How long have you served in your current position? \_\_\_\_\_
3. Do you have people under your direct supervision? If so, how many? \_\_\_\_\_
4. How many are collocated with you? \_\_\_\_\_
5. What type of job functions do those people under your direct supervision routinely perform? Check all that apply:  
 professional,  
 technical,  
 administrative,  
 clerical,  
 skilled/unskilled labor  
 other (specify) \_\_\_\_\_
6. How many people report to you indirectly (i.e. non-supervisory capacity)?  
Employees\_\_\_\_\_, Contractors\_\_\_\_\_, Other\_\_\_\_\_
7. From your perspective, rate the following in order of importance to being an effective leader:

- Technical proficiency
  - Effective communication and interpersonal skills
  - Years of experience
  - Formal leadership training
  - Natural leadership ability
8. Rank order the importance of these interpersonal skills needed for your job. (1 = most important; 10 = least important)
- Providing guidance, direction, or instruction
  - Motivating and inspiring
  - Fostering commitment from subordinates
  - Conveying information
  - Mentoring
  - Employee feedback/counseling
  - Team building
  - Listening
  - Persuading
  - Conflict resolution
9. On a routine workday, what percentage of your time is spent communicating with individuals within your organization (e.g., subordinates, peers, superiors, internal customers), and outside your organization (e.g., contractors, external customers, Headquarters DA or DoD)?
- Subordinates
  - Peers
  - Superiors
  - Internal customers
  - Contractors
  - External customers
  - Headquarters (e.g., DA or DoD)
  - Other (specify) \_\_\_\_\_
- 100% Total
10. What communication media do you rely on most often? Rank in order of importance to you. (1 = most important; 5 = least important)

- Face-to-face conversations
- Telephone conversations
- Electronic mail
- Teleconferencing/Video teleconferencing
- Memorandum
- Other (specify) \_\_\_\_\_

11. What factor(s) influence your choice(s) of communication media? Rank in order of importance to you.

- Personal preference
- Expediency (e.g., time, resources)
- Required by management, or organizational policy
- Effectiveness
- Collocation with peers, subordinates, managers, contractors
- Documentation (e.g., having a formal record of a communication)
- Other (specify) \_\_\_\_\_

12. What communication medium is the most challenging for you? \_\_\_\_\_

13. Have you completed any courses included under the Civilian Leader Development Core Curriculum listed below? Check those that apply.

- Intern Leadership Development Course (ILDC)
- Action Officer Development Course (AODC)
- Supervisory Development Course (SDC)
- Leadership Education and Development Course (LEAD)
- Manager Development Course (MDC)
- Organizational Leadership for Executives (OLE)
- Personnel Management for Executives (PME)
- SES Orientation Program
- Force Management Course for Senior Leaders
- Leadership at the Peak
- Senior Executive Equal Opportunity Seminar
- Senior Leader Communications Workshop
- DoD Apex Orientation
- Sustaining Base Leadership and Management (SBLM)

- Defense Leadership and Management Program (DLAMP)  
 Senior Service College  
 Other (specify) \_\_\_\_\_

## **APPENDIX B. INTERVIEW QUESTIONS**

### **An Identification of Interpersonal Skills for Building Army Civilian Leaders**

The purpose of this MSPM research project is to identify specific interpersonal skills that contribute to effective leadership. Your identity will be held in strict confidence. All data will be aggregated so that specific information will not be attributed to any individual. With your permission I'd like to tape record the interview so that I capture your words verbatim. If at anytime you'd like me to stop the tape, please let me know.

1. What are your primary responsibilities for your job?
2. What interpersonal skills and knowledge have you found to be critical to do your job well?
3. Can you tell me about a challenging situation that required good interpersonal skills? Specifically, what happened? Who was involved? What was the challenge? How did you handle it?
4. Do the interpersonal skills you need for your current job differ from previous jobs you have had? If so, how?
5. What different interpersonal skills do you believe will be required at the next level above your current job?
6. Has your leadership training (formal or otherwise) focused on interpersonal skills? If so, what specific interpersonal or communication skills were emphasized? If not, what do you feel was lacking or missing for career development?
7. If you had 5 minutes to tell your Service Acquisition Executive what you believe is needed to develop interpersonal skills for Army civilian leaders, what would you tell him?

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## **APPENDIX C. SUPPLEMENTAL DATA AND DISCUSSION**

### **A. DEMOGRAPHICS (SQ-1 THROUGH SQ-6)**

#### **1. Job Titles (SQ-1)**

Job titles were found to be unique to the individual organizations used in this study, by both location and type of acquisition organization. For example, job titles such as Branch Chief, Division Chief, and Director were more common within a Research Development and Engineering Center (RDEC), in contrast to job titles such as Team Leader, Systems Manager, and Deputy Program Manager within a program management office. Job titles with the designation of supervisor or supervisory were more common among the RDEC participants. Participants' individual job titles are listed by level Table C-1. To ensure the confidentiality of information provided by the study participants, their job titles are listed generically with all references to specific organizations or projects omitted.

**Table C-1. Participants' Job Titles by Level**

| Job Titles                     |   |   |                                      |
|--------------------------------|---|---|--------------------------------------|
| Level 2<br>(Branch Chief)      | Level 3<br>(Division Chief)             | Level 4<br>(Product Manager)                | Level 5<br>(Project/Program Manager) |
| Division Chief                 | Chief Engineer / Deputy Program Manager | Associate Program Manager, Special Programs | Deputy Project Manager               |
| Division Chief                 | International Coordinator               | Branch Chief                                | Deputy Project Manager               |
| Division Chief                 | Supervisory Mechanical Engineer         | Division Chief                              | Program Manager                      |
| Division Chief                 | Director, Risk Management               | Supervisory Engineer                        | Technical Director                   |
| Group Leader                   | Associate Director, Engineering         | Division Chief                              | Director, Business Management        |
| Group Leader                   | Deputy Director                         | Deputy Joint Project Manager                | Deputy Product Manager               |
| Mission Area Coordinator       | ILS Manager                             | Deputy Project Manager                      | Deputy Program Manager               |
| Systems Leader/<br>Team Leader | Lead Engineer                           | Division Chief                              | Chief Engineer                       |
| Group Leader                   | Team Leader                             | Director, Program Management                |                                      |
| Project Manager                | Supervisory Chemical Engineer           | Product Manager                             |                                      |

## **2. Length of Service (SQ-2)**

Length of service for individual study participants at each of the four management levels is included in the participant demographic profiles shown in Tables C-2 through C-5.

### **3. Other Participant Demographics (SQ-3 through SQ-6)**

Study participants with supervisory authority, and the number of subordinates they directly supervise at each of the four management levels, are included in the participant demographic profiles shown in Tables C-2 through C-5.

Study participants with supervisory authority, and the number of their supervised subordinates they are collocated with are included in the participant demographic profiles shown in Tables C-2 through C-5.

Study participants with supervisory authority, and the categories of subordinates they supervise are included in the participant demographic profiles shown in Tables C-2 through C-5.

Study participants with indirectly reporting subordinates, and the number of subordinates in each category are included in the participant demographic profiles shown in Tables C-2 through C-5.

**Table C-2. Level 2 Participant Demographic Profile (SQ-2 through SQ-6)**

| Survey Questions                                       | Level 2 Participant Responses |     |     |     |     |     |      |     |     |     |
|--|-------------------------------|-----|-----|-----|-----|-----|------|-----|-----|-----|
|  | 1                             | 2   | 3   | 4   | 5   | 6   | 7    | 8   | 9   | 10  |
| SQ-2. Length of Service in Current Position (in years) | 1.0                           | 2.0 | 1.0 | 9.0 | 5.0 | 3.0 | 12.0 | 6.0 | 5.0 | 9.0 |
| SQ-3. Number of Employees Directly Supervised          | 7                             | 5   | 12  | 7   | No  | 5   | 60   | 9   | 4   | No  |
| SQ-4. Collocation with Supervised Employees            | 7                             | 5   | 12  | 7   | N/A | 2   | 60   | 9   | 3   | N/A |
| SQ-5. Job Functions of Supervised Employees            |                               |     |     |     | N/A |     |      |     |     | N/A |
| Professional   | X                             | X   | X   | X   |     | X   | X    | X   | X   |     |
| Technical  |                               |     | X   |     |     | X   | X    | X   | X   |     |
| Administrative   | X                             |     |     | X   |     |     | X    |     | X   |     |
| Clerical   | X                             |     | X   |     |     |     | X    |     |     |     |
| Skilled/unskilled labor                                |                               |     |     |     |     |     |      |     |     |     |
| Other (specify)  |                               |     |     |     |     |     | X    |     |     |     |
| SQ-6. Number of Employees Reporting Indirectly         |                               |     |     |     |     |     |      |     |     |     |
| Civilian Employees                                     | 6                             | 0   | 0   | 0   | 3   | 0   | 5    | 11  | 3   | 0   |
| Contractor Employees                                   | 1                             | 3   | 4   | 5   | 70  | 3   | 0    | 3   | 10  | 0   |
| Other Employees  | 0                             | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 6   |

**Table C-3. Level 3 Participant Demographic Profile (SQ-2 through SQ-6)**

| Survey Questions                                       | Level 3 Participant Responses |     |     |     |     |      |     |     |     |     |
|--|-------------------------------|-----|-----|-----|-----|------|-----|-----|-----|-----|
|  | 1                             | 2   | 3   | 4   | 5   | 6    | 7   | 8   | 9   | 10  |
| SQ-2. Length of Service in Current Position (in years) | 5.0                           | 4.0 | 7.0 | 4.5 | 9.0 | 10.0 | 0.5 | 4.0 | 1.0 | 4.0 |
| SQ-3. Number of Employees Directly Supervised          | No                            | 28  | 11  | No  | 14  | 22   | 11  | 9   | 3   | 4   |
| SQ-4. Collocation with Supervised Employees            | N/A                           | 28  | 11  | N/A | 14  | 22   | 9   | 7   | 3   | 4   |
| SQ-5. Job Functions of Supervised Employees            | N/A                           |     |     | N/A |     |      |     |     |     |     |
| Professional   |                               | X   | X   |     | X   | X    | X   | X   | X   |     |
| Technical  |                               | X   | X   |     | X   | X    | X   | X   | X   | X   |
| Administrative   |                               | X   | X   |     | X   | X    |     | X   |     | X   |
| Clerical   |                               | X   | X   |     |     |      | X   | X   |     |     |
| Skilled/unskilled labor                                |                               |     |     |     |     |      |     |     |     |     |
| Other (specify)  |                               |     |     |     |     |      |     |     |     |     |
| SQ-6. Number of Employees Reporting Indirectly         |                               |     |     |     |     |      |     |     |     |     |
| Civilian Employees                                     | 20                            | 28  | 20  | 2   | 8   | 180  | 0   | 45  | 24  | 19  |
| Contractor Employees                                   | 5                             | 23  | 5   | 6   | 6   | 1    | 25  | 30  | 13  | 2   |
| Other Employees  | 0                             | 10  | 15  | 0   | 9   | 0    | 0   | 2   | 0   | 0   |

**Table C-4. Level 4 Participant Demographic Profile (SQ-2 through SQ-6)**

| Survey Questions                                       | Level 4 Participant Responses |     |     |     |     |     |     |     |     |     |
|--|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  | 1                             | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |
| SQ-2. Length of Service in Current Position (in years) | 1.0                           | 6.0 | 1.0 | 7.0 | 3.5 | 4.0 | 5.5 | 5.0 | 1.5 | 0.2 |
| SQ-3. Number of Employees Directly Supervised          | 25                            | 10  | 4   | 20  | 16  | 11  | 17  | 7   | 5   | No  |
| SQ-4. Collocation with Supervised Employees            | 25                            | 10  | 4   | 8   | 16  | 11  | 17  | 7   | 5   | N/A |
| SQ-5. Job Functions of Supervised Employees            |                               |     |     |     |     |     |     |     |     | N/A |
| Professional   | X                             | X   | X   | X   | X   | X   | X   | X   |     |     |
| Technical  |                               | X   | X   | X   |     |     | X   | X   | X   |     |
| Administrative   | X                             |     | X   | X   | X   | X   | X   | X   | X   |     |
| Clerical   |                               | X   | X   |     | X   | X   | X   | X   |     |     |
| Skilled/unskilled labor                                |                               |     |     |     |     |     |     |     |     |     |
| Other (specify)  |                               |     |     |     |     |     |     | X   |     |     |
| SQ-6. Number of Employees Reporting Indirectly         | N/A                           |     |     |     |     |     |     |     |     |     |
| Civilian Employees                                     |                               | 0   | 12  | 5   | 16  | 44  | 70  | 43  | 27  | 20  |
| Contractor Employees                                   |                               | 25  | 5   | 7   | 7   | 0   | 11  | 500 | 35  | 20  |
| Other Employees  |                               | 0   | 0   | 0   | 0   | 0   | 0   | 300 | 0   | 20  |

**Table C-5. Level 5 Participant Demographic Profile (SQ-2 through SQ-6)**

| Survey Questions                                       | Level 5 Participant Responses |     |      |     |     |       |     |     |
|--|-------------------------------|-----|------|-----|-----|-------|-----|-----|
|  | 1                             | 2   | 3    | 4   | 5   | 6     | 7   | 8   |
| SQ-2. Length of Service in Current Position (in years) | 1.0                           | 1.5 | 10.0 | 1.5 | 2.0 | 7.0   | 5.0 | 3.0 |
| SQ-3. Number of Employees Directly Supervised          | 7                             | 8   | 10   | 12  | 5   | 7     | 20  | 10  |
| SQ-4. Collocation with Supervised Employees            | 7                             | 7   | 10   | 12  | 5   | 3     | 20  | 7   |
| SQ-5. Job Functions of Supervised Employees            |                               |     |      |     |     |       |     |     |
| Professional   | X                             | X   | X    | X   | X   | X     | X   | X   |
| Technical  |                               |     | X    | X   | X   | X     | X   | X   |
| Administrative   |                               | X   | X    | X   | X   | X     | X   | X   |
| Clerical   |                               |     | X    | X   | X   | X     |     |     |
| Skilled/unskilled labor                                |                               |     |      |     |     |       |     |     |
| Other (specify)  |                               |     |      |     |     |       |     |     |
| SQ-6. Number of Employees Reporting Indirectly         |                               |     | N/A  |     | N/A |       | N/A |     |
| Civilian Employees                                     | 2                             | 200 |      | 150 |     | 1,100 |     | 20  |
| Contractor Employees                                   | 1                             | 150 |      | 20  |     | 350   |     | 50  |
| Other Employees  | 0                             | 0   |      | 0   |     | 0     |     | 0   |

## B. COMMUNICATION HABITS (SQ-9)

In SQ-9, participants were asked to estimate how much of their time, on a routine workday, is spent communicating with individuals within, and outside of, their own organizations. Participants were asked to assign relative percentages, totaling 100 percent, to eight different categories of individuals, including their subordinates, peers, superiors, internal customers, contractors, external customers, Service headquarters (e.g., Department of the Army), and others that did not fall into one of the remaining seven categories. The statistical range, mean, median and mode of the participants' responses for each of these seven categories of individuals were calculated for the aggregate of all the participants, and for each of the four levels considered.

**Aggregated Responses.** The aggregated responses revealed that the participants spent more time communicating with their subordinates than any other category, with a mean value of 37.9 percent of their time. Relative mean, median and mode values further revealed that the participants spent about the same percentage of their time communicating with their superiors, peers, contractors and internal customers, as evidenced by mean values ranging from a high of 12.9 percent for superiors, to a low of 9.8 percent for internal customers. Median and mode values for these categories were the same for these four categories at 10.0 percent. Time spent communicating with external customers and Service Headquarters was nearly half of that, with median and mode values of 5.0 percent. Time spent communicating with other individuals, not included in the remaining seven categories, was only 3.4 percent as evidenced by its mean value. The median and mode values for other categories were 0.0 percent. The range, mean, median, and mode of aggregated responses to SQ-9 are shown in Table C-6.

**Table C-6. SQ-9 – Routine Communication with Individuals (Aggregated)**

| On a routine workday, what percentage of your time is spent communicating with individuals within your organization, and outside your organization (totaling 100%)? | Aggregated Responses |          |            |          |
|---|----------------------|----------|------------|----------|
|   | Range (%)            | Mean (%) | Median (%) | Mode (%) |
| • Subordinates  | 0 – 86               | 37.9     | 35.0       | 30.0     |
| • Superiors   | 1 – 40               | 12.9     | 10.0       | 10.0     |
| • Peers   | 2 – 40               | 12.8     | 10.0       | 10.0     |
| • Contractors   | 0 – 30               | 10.8     | 10.0       | 10.0     |
| • Internal customers  | 0 – 25               | 9.8      | 10.0       | 10.0     |
| • External customers  | 0 – 30               | 7.6      | 5.0        | 5.0      |
| • Headquarters  | 0 – 25               | 4.8      | 5.0        | 5.0      |
| • Other   | 0 – 86               | 3.4      | 0.0        | 0.0      |

**Level 2 Responses.** Consistent with the aggregated responses, level 2 participants spent the relative majority of their time communicating with their subordinates, although the mean value dropped from 37.9 percent to 25.3 percent for level 2. The amount of time spent communicating with their superiors increased slightly with a mean value of 14.4 percent. Time spent communicating with peers, contractors, and internal customers were about the same at level 2 as exhibited in the aggregated responses. Level 2 participants spent slightly more time communicating with external customers, with a mean value of 10.0 percent. Consistent with the aggregated results, level 2 participants spent the least amount of time communicating with Service Headquarters and other individuals. One level 2 participant indicated that he spent nearly 86 percent of his time communicating with other individuals, which skewed the resulting mean value of 12.6 percent. Median and mode values for time spent communicating with other individuals were 0.0 percent. The range, mean, median, and mode of level 2 responses to SQ-9 are shown in Table C-7.

**Table C-7. SQ-9 – Routine Communication with Individuals (Level 2)**

| On a routine workday, what percentage of your time is spent communicating with individuals within your organization, and outside your organization (totaling 100%)? | Level 2 Responses |          |            |          |
|---|-------------------|----------|------------|----------|
|   | Range (%)         | Mean (%) | Median (%) | Mode (%) |
| • Subordinates  | 0 – 50            | 25.3     | 30.0       | 30.0     |
| • Superiors   | 3 – 25            | 14.4     | 12.5       | 10.0     |
| • Peers   | 4 – 40            | 12.3     | 10.0       | 10.0     |
| • Contractors   | 1 – 30            | 11.5     | 10.0       | 25.0     |
| • Internal customers  | 0 – 25            | 11.1     | 10.0       | 10.0     |
| • External customers  | 0 – 20            | 10.0     | 9.0        | 5.0      |
| • Headquarters  | 0 – 10            | 2.8      | 1.5        | 0.0      |
| • Other   | 0 – 86            | 12.6     | 0.0        | 0.0      |

**Level 3 Responses.** Individual responses from level 3 participants exhibited more variation as a group than with any other level considered, as evidenced by variation between mean, median and mode values for each of the seven categories. Consistent with the aggregated responses, level 3 participants spent the most time communicating with their subordinates, with a mean value of 42.1 percent. Time spent communicating with superiors and peers exhibited mean values of 15.7 percent and 13.9 percent, respectively. Level 3 participants spent more time communicating with internal customers than contractors, with mean values of 11.0 percent and 8.3 percent respectively. Time spent communicating with external customers, Service Headquarters and other individuals was still relatively small with mean values ranging from 4.5 percent to 1.5 percent. The range, mean, median, and mode of level 3 responses to SQ-9 are shown in Table C-8.

**Table C-8. SQ-9 – Routine Communication with Individuals (Level 3)**

| On a routine workday, what percentage of your time is spent communicating with individuals within your organization, and outside your organization (totaling 100%)? | Level 3 Responses |          |            |          |
|---|-------------------|----------|------------|----------|
|   | Range (%)         | Mean (%) | Median (%) | Mode (%) |
| • Subordinates  | 25 – 86           | 42.1     | 35.0       | 25.0     |
| • Superiors   | 4 – 30            | 15.7     | 12.5       | 10.0     |
| • Peers   | 2 – 35            | 13.9     | 10.0       | 10.0     |
| • Contractors   | 0 – 30            | 8.3      | 7.5        | 10.0     |
| • Internal customers  | 0 – 30            | 11.0     | 4.5        | 30.0     |
| • External customers  | 0 – 10            | 4.5      | 5.0        | 5.0      |
| • Headquarters  | 0 – 10            | 3.0      | 2.0        | 1.0      |
| • Other   | 0 – 10            | 1.5      | 0.0        | 0.0      |

**Level 4 Responses.** Responses among level 4 participants were the most consistent with the aggregated responses. Time spent communicating with subordinates was somewhat higher, with a mean value of 48.3 percent. None of the level 4 participants reported spending time communicating with individuals in other categories. The range, mean, median, and mode of level 4 responses to SQ-9 are shown in Table C-9.

**Table C-9. SQ-9 – Routine Communication with Individuals (Level 4)**

| On a routine workday, what percentage of your time is spent communicating with individuals within your organization, and outside your organization (totaling 100%)? | Level 4 Responses |          |            |          |
|---|-------------------|----------|------------|----------|
|   | Range (%)         | Mean (%) | Median (%) | Mode (%) |
| • Subordinates  | 25 – 75           | 48.3     | 40.0       | 35.0     |
| • Superiors   | 1 – 20            | 11.2     | 10.0       | 10.0     |
| • Peers   | 5 – 25            | 9.7      | 10.0       | 10.0     |
| • Contractors   | 2 – 20            | 8.6      | 10.0       | 10.0     |
| • Internal customers  | 0 – 20            | 10.2     | 10.0       | 10.0     |
| • External customers  | 0 – 30            | 7.3      | 5.0        | 10.0     |
| • Headquarters  | 0 – 10            | 4.7      | 5.0        | 5.0      |
| • Other   | 0                 | 0.0      | 0.0        | 0.0      |

**Level 5 Responses.** Consistent with the other levels considered, level 5 participants also spent more time communicating with their subordinates than any other single category, with a mean value of 35.6 percent. In contrast with the other levels considered, the time spent communicating with superiors was the lowest at level 5, with a mean value of 8.9 percent, and communicating with peers was the highest, with a mean value of 16.6 percent. Time spent communicating with contractors, and internal and external customers, was about the same at level 5, with mean values ranging from 8.8 percent to 10.8 percent. Time spent communicating with Service Headquarters was slightly higher than the other levels considered, although it was still surprisingly low, with a mean value of only 9.4 percent. None of the level 5 participants reported spending time communicating with individuals from the other category. The range, mean, median, and mode of level 5 responses to SQ-9 are shown in Table C-10.

**Table C-10. SQ-9 – Routine Communication with Individuals (Level 5)**

| On a routine workday, what percentage of your time is spent communicating with individuals within your organization, and outside your organization (totaling 100%)? | Level 5 Responses |          |            |          |
|---|-------------------|----------|------------|----------|
|   | Range (%)         | Mean (%) | Median (%) | Mode (%) |
| • Subordinates  | 20 – 65           | 35.6     | 35.0       | 20.0     |
| • Superiors   | 3 – 40            | 8.9      | 10.0       | 10.0     |
| • Peers   | 1 – 20            | 16.6     | 17.5       | 20.0     |
| • Contractors   | 1 – 20            | 10.0     | 10.0       | 10.0     |
| • Internal customers  | 5 – 20            | 10.8     | 10.0       | 5.0      |
| • External customers  | 5 – 15            | 8.8      | 10.0       | 10.0     |
| • Headquarters  | 5 – 25            | 9.4      | 7.5        | 5.0      |
| • Other   | 0                 | 0.0      | 0.0        | 0.0      |

### C. CHOICE OF COMMUNICATION MEDIA (SQ-10)

In SQ-10, participants were asked to rank a series of five communication media in descending order of their importance (1 being most important, to 5 being least important) in performing their current job. The communication media considered were (1) face-to-face (i.e., a one-on-one conversation, or an informal conversation among a small group); (2) electronic mail; (3) telephone (i.e., a one-on-one conversation via telephone); (4) teleconferencing and video teleconferencing; and (5) memorandum. The statistical range, mean, median and mode of the participants' responses for each of these five communication media were calculated for the aggregate of all four levels. The responses were then arranged in descending order of their perceived importance to the participants.

**Aggregated Responses.** The range of the aggregated responses for each of the five communication media revealed a continuum of values that was also reflected in their relative mean, median, and mode values. The aggregated mean of the responses, however, did not exhibit a decisive ranking of the five communication media. As expected, face-to-face communication ranked as the most important communication

media with a mean value of 1.8. Electronic mail ranked a very close second in importance, with a mean value of 1.9. Median values for these two communication media were both 2.0, and mode values were both 1.0.

Communication by telephone ranked third in importance, with a mean value of 2.4. Teleconferencing and video teleconferencing, and communication by memorandum decisively ranked as the least important to the participants, with mean values of 4.1 and 4.7, respectively. The range, mean, median, and mode of aggregated responses to SQ-10 are shown in Table C-11.

**Table C-11. SQ-10 – Choice of Communication Media (Aggregated)**

| What communication media do you rely on most often? Rank in order of importance to you (1 = most to 5 = least). | Aggregated Responses |      |        |      |
|---|----------------------|------|--------|------|
|   | Range                | Mean | Median | Mode |
| • Face-to-face  | 1 – 3                | 1.8  | 2.0    | 1.0  |
| • Electronic Mail   | 1 – 4                | 1.9  | 2.0    | 1.0  |
| • Telephone   | 1 – 4                | 2.4  | 2.5    | 3.0  |
| • Voice/Video Teleconferencing  | 2 – 5                | 4.1  | 4.0    | 4.0  |
| • Memorandum  | 3 – 5                | 4.7  | 5.0    | 5.0  |

**Level 2 Responses.** The statistical range, mean, median and mode of the participants' responses for each of the five communication media were then calculated for the four levels individually. Participant responses at level 2 were very close to the aggregated responses with respect to mean values. While face-to-face communication and electronic mail both had a mean value of 1.8, the corresponding median and mode values indicated that electronic mail ranked higher in importance to the participants. The range, mean, median, and mode of level 2 responses to SQ-10 are shown in Table C-12.

**Table C-12. SQ-10 – Choice of Communication Media (Level 2)**

| What communication media do you rely on most often? Rank in order of importance to you (1 = most to 5 = least). | Level 2 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Face-to-face  | 1 - 3             | 1.8  | 2.0    | 2.0  |
| • Electronic Mail   | 1 - 3             | 1.8  | 1.5    | 1.0  |
| • Telephone   | 1 - 4             | 2.5  | 2.5    | 3.0  |
| • Voice/Video Teleconferencing  | 3 - 5             | 4.2  | 4.0    | 4.0  |
| • Memorandum  | 4 - 5             | 4.7  | 5.0    | 5.0  |

**Level 3 Responses.** Participant responses at level 3 were also very close to the aggregated responses with respect to mean values. Although face-to-face communication and electronic mail both had median values of 1.5, and mode values of 1.0, face-to-face communication outranked electronic mail with mean values of 1.7 and 1.9, respectively. The range, mean, median, and mode of level 3 responses to SQ-10 are shown in Table C-13.

**Table C-13. SQ-10 – Choice of Communication Media (Level 3)**

| What communication media do you rely on most often? Rank in order of importance to you (1 = most to 5 = least). | Level 3 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Face-to-face  | 1 - 3             | 1.7  | 1.5    | 1.0  |
| • Electronic Mail   | 1 - 4             | 1.9  | 1.5    | 1.0  |
| • Telephone   | 2 - 4             | 2.8  | 3.0    | 3.0  |
| • Voice/Video Teleconferencing  | 2 - 5             | 3.8  | 4.0    | 4.0  |
| • Memorandum  | 4 - 5             | 4.8  | 5.0    | 5.0  |

**Level 4 Responses.** Participant responses at level 4 exhibited the same overall ranking of the communication media as the aggregated responses, however, the importance of electronic mail decreased to rank closely with telephone communication. The median and mode values for both electronic mail and telephone were 2.0 and 2.0 respectively. The range, mean, median, and mode of level 4 responses to SQ-10 are shown in Table C-14.

**Table C-14. SQ-10 – Choice of Communication Media (Level 4)**

| What communication media do you rely on most often? Rank in order of importance to you (1 = most to 5 = least). | Level 4 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Face-to-face  | 1 - 3             | 1.7  | 1.0    | 1.0  |
| • Electronic Mail   | 1 - 3             | 2.1  | 2.0    | 2.0  |
| • Telephone   | 1 - 4             | 2.3  | 2.0    | 2.0  |
| • Voice/Video Teleconferencing  | 4 - 5             | 4.3  | 4.0    | 4.0  |
| • Memorandum  | 3 - 5             | 4.6  | 5.0    | 5.0  |

**Level 5 Responses.** Participant responses at level 5 exhibited the most variation from the aggregated responses. Electronic mail ranked as the most important communication media, with a mean value of 1.9. Corresponding median and mode values 2.0 for electronic mail supported this ranking. Telephone and face-to-face communication ranked as second and third in importance to the participants. While both exhibited a mean value of 2.1, and a mode value of 3.0, telephone communication had a slightly lower median value, ranking it slightly more important than face-to-face communication. The range, mean, median, and mode of level 5 responses to SQ-10 are shown in Table C-15.

**Table C-15. SQ-10 – Choice of Communication Media (Level 5)**

| What communication media do you rely on most often? Rank in order of importance to you (1 = most to 5 = least). | Level 5 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Face-to-face  | 1 - 3             | 2.1  | 2.5    | 3.0  |
| • Electronic Mail   | 1 - 4             | 1.9  | 2.0    | 2.0  |
| • Telephone   | 1 - 3             | 2.1  | 2.0    | 3.0  |
| • Voice/Video Teleconferencing  | 4 - 5             | 4.1  | 4.0    | 4.0  |
| • Memorandum  | 3 - 5             | 4.8  | 5.0    | 5.0  |

#### D. INFLUENCES ON CHOICE OF COMMUNICATION MEDIA (SQ-11)

In SQ-11, participants were asked to rank a series of six factors, in descending order of importance, that influence their choice of communication media to use on their job. The six factors considered were (1) personal preference; (2) expediency; (3) required by management or organizational policy; (4) effectiveness; (5) collocation; and (6) documentation (i.e., documenting the communication). The statistical range, mean, median and mode of the participants' responses for each of the six factors were calculated for the aggregate of all four levels considered.

**Aggregated Responses.** The range of the aggregated responses was typically wide, with three of the six factors ranging from 1 (i.e., most important) to 6 (i.e., least important). The aggregated mean values, and their supporting median and mode values, exhibited three close groupings of factors in order of their importance. The highest ranking grouping of factors consisted of expediency and effectiveness, with mean values of 2.0 and 2.1 respectively. The middle ranking grouping of factors consisted of personal preference and collocation, with mean values of 3.6 and 3.7, respectively. The lowest ranking grouping of factors consisted of documentation, and required by management or organizational policy, with mean values of 4.5 and 5.2, respectively. Median and mode values supported this ranking of the six factors. The range, mean, median, and mode of aggregated responses to SQ-11 are shown in Table C-16.

**Table C-16. SQ-11 – Factors Influencing Choice of Communication Media (Aggregated)**

| What factor(s) influence your choice(s) of communication media? Rank in order of importance to you (1 = most to 5 = least). | Aggregated Responses |      |        |      |
|---|----------------------|------|--------|------|
|   | Range                | Mean | Median | Mode |
| • Expediency  | 1 - 5                | 2.0  | 2.0    | 1.0  |
| • Effectiveness   | 1 - 4                | 2.1  | 2.0    | 2.0  |
| • Personal preference   | 1 - 6                | 3.6  | 4.0    | 4.0  |
| • Collocation   | 1 - 6                | 3.7  | 4.0    | 4.0  |
| • Documentation   | 1 - 6                | 4.5  | 5.0    | 5.0  |
| • Required by management or organizational policy   | 2 - 6                | 5.2  | 6.0    | 6.0  |

**Level 2 Responses.** The statistical range, mean, median and mode of the participants' responses for each of the six factors were then calculated for the four levels individually. The responses among level 2 participants revealed a less narrow grouping of mean, median and mode values for the six factors, making a more decisive ranking apparent. Expediency was ranked as the most important of the factors, with effectiveness ranking a close second in importance. Collocation was ranked as the third most important factor. Among level 2 participants, personal preference and documentation ranked fourth and fifth, with mean values of 4.4 and 4.3, respectively. Although documentation had a slightly lower mean value, median and mode values supported personal preference as slightly more important. Consistent with the aggregated results, as required by management or organizational policy was ranked as the least important factor in the choice of communication media. The range, mean, median, and mode of level 2 responses to SQ-11 are shown in Table C-17.

**Table C-17. SQ-11 – Factors Influencing Choice of Communication Media (Level 2)**

| What factor(s) influence your choice(s) of communication media? Rank in order of importance to you (1 = most to 5 = least). | Level 2 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Expediency  | 1 - 4             | 1.7  | 1.5    | 1.0  |
| • Effectiveness   | 1 - 4             | 2.0  | 2.0    | 2.0  |
| • Personal preference   | 3 - 6             | 4.4  | 4.0    | 4.0  |
| • Collocation   | 1 - 6             | 3.5  | 3.0    | 3.0  |
| • Documentation   | 1 - 6             | 4.3  | 5.0    | 5.0  |
| • Required by management or organizational policy   | 3 - 6             | 5.1  | 6.0    | 6.0  |

**Level 3 Responses.** Consistent with the aggregated responses, level 3 participants ranked expediency as the most important factor in the choice of communication media, with a mean value of 2.2. Personal preference was ranked second most important, with a mean value of 2.6. Effectiveness was ranked third most important, with a mean value of 2.5. The corresponding median and mode values

supported the ranking of personal preference as more important than effectiveness at level 3. In order of importance, the relative ranking of collocation, documentation, and management or organizational policy was decisive, with mean values of 3.4, 4.6, and 5.7, respectively. The range, mean, median, and mode of level 3 responses to SQ-11 are shown in Table C-18.

**Table C-18. SQ-11 – Factors Influencing Choice of Communication Media (Level 3)**

| What factor(s) influence your choice(s) of communication media? Rank in order of importance to you (1 = most to 5 = least). | Level 3 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Expediency  | 1 - 5             | 2.2  | 2.0    | 1.0  |
| • Effectiveness   | 1 - 4             | 2.5  | 3.0    | 3.0  |
| • Personal preference   | 1 - 6             | 2.6  | 2.0    | 1.0  |
| • Collocation   | 2 - 5             | 3.4  | 3.5    | 4.0  |
| • Documentation   | 2 - 5             | 4.6  | 5.0    | 5.0  |
| • Required by management or organizational policy   | 3 - 6             | 5.7  | 6.0    | 6.0  |

**Level 4 Responses.** The responses at level 4 exhibited the most variation from the aggregated responses. In contrast with the aggregated results, effectiveness ranked as the most important factor in the choice of communication media. Among level 4 participants, effectiveness was ranked as either first or second in importance, the narrowest range reported for any factor at any level. Expediency ranked as the second most important factor, with a mean value of 2.1. Although expediency and effectiveness both had median values of 1.5, the responses ranged from 1 to 5 for expediency. The mean values for the remaining four factors were narrowly grouped from 4.0 for personal preference, 4.4 for collocation and documentation, and 4.6 for as required by management or organizational policy. The range, mean, median, and mode of level 4 responses to SQ-11 are shown in Table C-19.

**Level 5 Responses.** The responses at level 5 were similar to the aggregated responses, exhibiting the same three groupings of factors and relative ranking, based on

mean values. Documentation exhibited a narrow range of responses from 4 to 6. The range, mean, median, and mode of level 5 responses to SQ-11 are shown in Table C-20.

**Table C-19. SQ-11 – Factors Influencing Choice of Communication Media (Level 4)**

| What factor(s) influence your choice(s) of communication media? Rank in order of importance to you (1 = most to 5 = least). | Level 4 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Expediency  | 1 - 5             | 2.1  | 1.5    | 1.0  |
| • Effectiveness   | 1 - 2             | 1.5  | 1.5    | 2.0  |
| • Personal preference   | 2 - 6             | 4.0  | 4.5    | 5.0  |
| • Collocation   | 3 - 6             | 4.4  | 4.0    | 4.0  |
| • Documentation   | 3 - 6             | 4.4  | 4.0    | 6.0  |
| • Required by management or organizational policy   | 2 - 6             | 4.6  | 5.0    | 6.0  |

**Table C-20. SQ-11 – Factors Influencing Choice of Communication Media (Level 5)**

| What factor(s) influence your choice(s) of communication media? Rank in order of importance to you (1 = most to 5 = least). | Level 5 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Expediency  | 1 - 4             | 2.1  | 2.0    | 1.0  |
| • Effectiveness   | 1 - 4             | 2.3  | 2.0    | 2.0  |
| • Personal preference   | 1 - 6             | 3.1  | 3.0    | 3.0  |
| • Collocation   | 1 - 5             | 3.3  | 3.0    | 5.0  |
| • Documentation   | 4 - 6             | 4.9  | 5.0    | 4.0  |
| • Required by management or organizational policy   | 3 - 6             | 5.4  | 6.0    | 6.0  |

#### **E. RELATIVE IMPORTANCE OF INTERPERSONAL SKILLS (SQ-8)**

In SQ-8, participants were asked to rank a series of ten interpersonal skills in descending order of their importance in performing their current job. The ten skills considered were (1) providing guidance, or direction; (2) motivating and inspiring; (3)

fostering commitment; (4) conveying information; (5) mentoring; (6) providing employee feedback; (7) teambuilding; (8) listening; (9) persuading; and (10) conflict resolution.

The statistical range, mean, median and mode of the participants' responses for each of these ten skills were calculated for the aggregate of all four levels. The aggregated responses were then arranged in descending order of their importance to the participants, based on their relative mean values. The mean of responses values was used as the most important consideration in ranking the various factors assigned to the question. Range, median and mode values were used primarily to support the rankings established by mean values, and to reveal data anomalies that could skew the results.

**Aggregated Responses.** The aggregated responses ranged from a high of 1 (i.e., most important) to a low of 10 (i.e., least important) for four of the ten skills, specifically, providing guidance or direction, conveying information, teambuilding, and persuading. The narrowest range of values was 3 to 10 for fostering commitment.

The mean of the aggregated responses ranged from a high of 3.1 for providing guidance or direction, to a low of 7.3 for persuading. Given the differences in job levels and job responsibilities among the participants, a narrow grouping of mean values was expected. As a result, a decisive ranking of the ten interpersonal skills considered was not possible. The trend evident from median and mode values, however, with two exceptions, supported the relative ranking of the skills by their mean values.

Providing guidance or direction ranked as the most important of the ten interpersonal skills considered, followed closely by listening, with mean values of 3.1 and 3.4 respectively. Median values were 2.0 and 3.0 respectively, and mode values were 1.0 for both of these skills. Conveying information ranked as the third most important skills set with a mean value of 4.1, and with median and mode values of 3.0.

Motivating and inspiring, and teambuilding ranked fourth and fifth most important with mean values of 4.7 and 5.1 respectively. However, their relative mode values were inconsistent with their mean values. Teambuilding had a mode value of 2.0, and motivating and inspiring had a mode value of 7.0.

Fostering commitment and mentoring ranked closely as the sixth and seventh most important with mean values of 6.6 and 6.5. Median and mode values for these skills, however, were further apart. Median values were 6.0 and 7.5 respectively, and mode values were 6.0 and 9.0 respectively.

Providing employee feedback, conflict resolution and persuading exhibited ranked closely as the three least important interpersonal skills, with mean values between 7.1 and 7.3. Median values revealed a slight differentiation between them, while their mode values were the same at 10.0. The range, mean, median, and mode of aggregated responses to SQ-8 are shown in Table C-21.

**Table C-21. SQ-8 – Relative Importance of Interpersonal Skills (Aggregated)**

| Rank, in order, the importance of these interpersonal skills needed for your job<br>(1 = most to 10 = least): | Aggregated Responses |      |        |      |
|---|----------------------|------|--------|------|
|   | Range                | Mean | Median | Mode |
| • Providing Guidance or Direction   | 1 – 10               | 3.1  | 2.0    | 1.0  |
| • Listening   | 1 – 8                | 3.4  | 3.0    | 1.0  |
| • Conveying Information   | 1 – 10               | 4.1  | 3.0    | 3.0  |
| • Motivating and Inspiring  | 1 – 9                | 4.7  | 5.0    | 7.0  |
| • Teambuilding  | 1 – 10               | 5.1  | 5.0    | 2.0  |
| • Fostering Commitment  | 3 – 10               | 6.6  | 6.0    | 6.0  |
| • Mentoring   | 2 – 10               | 6.5  | 7.5    | 9.0  |
| • Employee Feedback   | 3 – 10               | 7.2  | 7.0    | 10.0 |
| • Conflict Resolution   | 2 – 10               | 7.1  | 7.5    | 10.0 |
| • Persuading  | 1 – 10               | 7.3  | 8.5    | 10.0 |

**Level 2 Responses.** The statistical range, mean, median and mode of the participants' responses for each of the ten interpersonal skills were then calculated for the four levels individually. The relative ranking of the ten interpersonal skills exhibited in the aggregated responses was reflected most closely among level 2 participants, based on mean values. Providing guidance or direction, and conveying information increased slightly in importance, while listening decreased slightly in importance for level 2

participants. The range, mean, median, and mode of level 2 participants' responses to survey question 8 are shown in Table C-22.

Mean values for motivating and inspiring, teambuilding, fostering commitment, and mentoring ranged from a high of 4.7, to a low of 6.1, however, their median values were closely grouped between 4.5 and 5.5. There was a much larger difference in mode values with a high of 3.0 for mentoring, 5.0 for fostering commitment, and a low of 7.0 for motivating and inspiring, and teambuilding.

Consistent with the aggregated responses, providing employee feedback, conflict resolution, and persuading ranked as the three least important skills at level 2. Level 2 participants ranked persuading slightly more important than conflict resolution.

**Table C-22. SQ-8 – Relative Importance of Interpersonal Skills (Level 2)**

| Rank, in order, the importance of these interpersonal skills needed for your job<br>(1 = most to 10 = least): | Level 2 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Providing Guidance or Direction   | 1 - 6             | 2.5  | 2.0    | 1.0  |
| • Listening   | 2 - 8             | 3.8  | 3.5    | 4.0  |
| • Conveying Information   | 1 - 8             | 3.8  | 3.0    | 3.0  |
| • Motivating and Inspiring  | 1 - 7             | 4.7  | 5.5    | 7.0  |
| • Teambuilding  | 1 - 9             | 4.9  | 5.5    | 7.0  |
| • Fostering Commitment  | 3 - 10            | 6.1  | 5.5    | 5.0  |
| • Mentoring   | 3 - 9             | 5.6  | 4.5    | 3.0  |
| • Employee Feedback   | 4 - 10            | 7.9  | 8.0    | 7.0  |
| • Conflict Resolution   | 5 - 10            | 8.1  | 8.5    | 10.0 |
| • Persuading  | 1 - 10            | 7.6  | 9.0    | 10.0 |

**Level 3 Responses.** Level 3 participants ranked listening as the most important interpersonal skills set, with a mean value of 2.8. Conveying information ranked as the second most important skill set, with a mean value of 3.9. In contrast to the aggregated results, level 3 participants ranked providing guidance or direction of less importance than listening and conveying information. Persuading clearly ranked as the least important skills set with a mean value of 8.2. The remaining six skills were closely

grouped with mean values between 5.2 and 7.0. This trend was also reflected in their median values, however, their mode values ranged from 2.0 to 9.0, indicating a wide variation in responses. The range, mean, median, and mode of level 3 participants' responses to SQ-8 are shown in Table C-23.

**Table C-23. SQ-8 – Relative Importance of Interpersonal Skills (Level 3)**

| Rank, in order, the importance of these interpersonal skills needed for your job (1 = most to 10 = least): | Level 3 Responses |      |        |      |
|--|-------------------|------|--------|------|
|  | Range             | Mean | Median | Mode |
| • Providing Guidance or Direction  | 1 - 10            | 4.1  | 4.0    | 4.0  |
| • Listening  | 1 - 6             | 2.8  | 2.5    | 1.0  |
| • Conveying Information  | 1 - 9             | 3.9  | 3.0    | 1.0  |
| • Motivating and Inspiring   | 1 - 9             | 5.5  | 6.5    | 7.0  |
| • Teambuilding   | 2 - 10            | 5.2  | 5.5    | 2.0  |
| • Fostering Commitment   | 5 - 10            | 7.0  | 6.5    | 6.0  |
| • Mentoring  | 2 - 9             | 6.2  | 7.0    | 8.0  |
| • Employee Feedback  | 3 - 10            | 5.9  | 5.5    | 6.0  |
| • Conflict Resolution  | 2 - 10            | 6.2  | 6.5    | 9.0  |
| • Persuading   | 3 - 10            | 8.2  | 9.0    | 10.0 |

**Level 4 Responses.** Level 4 participants ranked motivating and inspiring as the most important of the ten interpersonal skills considered, with a mean value of 2.9. Providing guidance or direction, and listening ranked second and third, with mean values of 3.1 and 3.8 respectively. Conveying information ranked lower among level 4 participants than at the other three levels considered. Consistent with the aggregated results, persuading, providing employee feedback, and conflict resolution ranked as the three least important skills with mean values of 7.2, 7.7 and 7.8, respectively. The range, mean, median, and mode of level 4 participants' responses to SQ-8 are shown in Table C-24.

**Table C-24. SQ-8 – Relative Importance of Interpersonal Skills (Level 4)**

| Rank, in order, the importance of these interpersonal skills needed for your job<br>(1 = most to 10 = least): | Level 4 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Providing Guidance or Direction   | 1 - 8             | 3.1  | 2.5    | 1.0  |
| • Listening   | 1 - 8             | 3.8  | 3.5    | 2.0  |
| • Conveying Information   | 1 - 10            | 5.0  | 4.0    | 8.0  |
| • Motivating and Inspiring  | 1 - 8             | 2.9  | 3.0    | 1.0  |
| • Teambuilding  | 2 - 8             | 4.5  | 4.5    | 2.0  |
| • Fostering Commitment  | 4 - 10            | 6.6  | 5.5    | 5.0  |
| • Mentoring   | 3 - 9             | 6.4  | 6.0    | 9.0  |
| • Employee Feedback   | 5 - 10            | 7.7  | 7.5    | 6.0  |
| • Conflict Resolution   | 5 - 10            | 7.8  | 8.0    | 8.0  |
| • Persuading  | 2 - 10            | 7.2  | 8.0    | 10.0 |

**Level 5 Responses.** The relative ranking among level 5 participants for providing guidance or direction, listening, and conveying information were consistent with the aggregated responses. The mean values were also lower at 2.5, 3.0, and 3.8, respectively, indicating that these skills were considered somewhat more important at level 5. Teambuilding ranked fourth, with a mean value of 5.8. Motivating and inspiring ranked seventh, with a mean value of 5.9, however, its corresponding mode value was the highest of the ten skills considered at 9.0. In contrast with the aggregated responses, and responses at the other three levels, persuading and conflict resolution ranked in the mid-range of the ten interpersonal skills considered. Providing employee feedback and mentoring ranked as the two least important skills among level 5 participants, with mean values of 7.3 and 8.1, respectively. The range, mean, median, and mode of level 5 participants' responses to SQ-8 are shown in Table C-25.

**Table C-25. SQ-8 – Relative Importance of Interpersonal Skills (Level 5)**

| Rank, in order, the importance of these interpersonal skills needed for your job<br>(1 = most to 10 = least): | Level 5 Responses |      |        |      |
|---|-------------------|------|--------|------|
|   | Range             | Mean | Median | Mode |
| • Providing Guidance or Direction   | 1 - 8             | 2.5  | 1.5    | 1.0  |
| • Listening   | 1 - 8             | 3.0  | 2.5    | 1.0  |
| • Conveying Information   | 2 - 9             | 3.8  | 2.5    | 2.0  |
| • Motivating and Inspiring  | 2 - 9             | 5.9  | 5.5    | 9.0  |
| • Teambuilding  | 2 - 10            | 5.8  | 5.5    | *    |
| • Fostering Commitment  | 3 - 10            | 6.5  | 6.0    | 6.0  |
| • Mentoring   | 6 - 10            | 8.1  | 8.0    | 8.0  |
| • Employee Feedback   | 4 - 10            | 7.3  | 7.5    | 5.0  |
| • Conflict Resolution   | 3 - 10            | 5.9  | 5.0    | 3.0  |
| • Persuading  | 1 - 9             | 5.8  | 5.5    | 5.0  |

\* Mode could not be determined.

#### **F. FACTORS CONTRIBUTING TO EFFECTIVE LEADERSHIP (SQ-7)**

In SQ-7, participants were asked to rank a series of five factors in descending order of their perceived importance as contributing factors to effective leadership. The five factors considered were: (1) technical proficiency; (2) effective communication and interpersonal skills; (3) experience; (4) formal leadership training; and, (5) natural leadership ability. The statistical range, mean, median and mode of the participants' responses for each of the five factors were calculated for the aggregate of all four levels. The aggregated responses were then arranged in descending order of their perceived importance based on their relative means.

**Aggregated Responses.** The aggregated responses ranged from a high of 1 (i.e., most important) to a low of 5 (i.e., least important) for three of the five factors. The aggregated mean of the responses exhibited a decisive ranking of the five factors in order of their importance to the participants. The aggregated median and mode of responses revealed the identical ranking of the five factors in order of their perceived importance.

The participants decisively ranked effective communication and interpersonal skills as the most important of the five factors, with responses ranging from 1 to 3, and a mean of 1.5. Natural leadership ability ranked second most important overall, and despite responses ranging from 1 to 5, its mean of 2.3 was supported by median and mode values of 2.0. Technical proficiency ranked third in importance, with responses ranging from 1 to 5, and a mean of 3.2 supported by median and mode values of 3.0. Formal leadership training ranked fourth, with responses ranging from 1 to 5, and a mean of 3.9 supported by median and mode values of 4.0. Formal leadership training consistently ranked as the least important factor among participants, with responses ranging from 3 to 5, and a mean of 4.1. The supporting median for formal leadership training was 4.0, and the mode value was 5.0. The aggregated range, mean, median, and mode of participants' responses to SQ-7 are shown in Table C-26.

**Table C-26. SQ-7 – Factors Contributing to Effective Leadership (Aggregated)**

| From your perspective, rate the following in order of their importance to being an effective leader (1 = most to 5 = least): | Aggregated Responses |      |        |      |
|--|----------------------|------|--------|------|
|  | Range                | Mean | Median | Mode |
| • Effective Communication and Interpersonal Skills   | 1 - 3                | 1.5  | 1.0    | 1.0  |
| • Natural Leadership Ability   | 1 - 5                | 2.3  | 2.0    | 2.0  |
| • Technical Proficiency  | 1 - 5                | 3.2  | 3.0    | 3.0  |
| • Years of Experience  | 1 - 5                | 3.9  | 4.0    | 4.0  |
| • Formal Leadership Training   | 2 - 5                | 4.1  | 4.0    | 5.0  |

The statistical range, mean, median and mode of the participants' responses for each of the five factors were then calculated for the four levels individually. The trends exhibited in the aggregated responses were largely reflected in the responses for each of the four levels, although there were slight variations in relative rankings of the factors among individual levels. Effective communication and interpersonal skills consistently ranked as the most important factor to being an effective leader at each of the four levels.

Mean values ranged from high of 1.3 at level 3 to a low of 1.6 at level 5. The median and mode values were consistently 1.0 at each of the four levels.

**Level 2 Responses.** Participant responses at level 2 were the most similar to the aggregated responses, in that the mean, median and mode exhibited a decisive ranking of the five factors in order of their importance to the participants. Natural leadership ability, and technical proficiency, ranked slightly higher among level 2 participants. Years of experience and formal leadership training ranked slightly lower. The range, mean, median, and mode of level 2 participants' responses to SQ-7 are shown in Table C-27.

**Table C-27. SQ-7 – Factors Contributing to Effective Leadership (Level 2)**

| From your perspective, rate the following in order of their importance to being an effective leader (1 = most to 5 = least): | Level 2 Responses |      |        |      |
|--|-------------------|------|--------|------|
|  | Range             | Mean | Median | Mode |
| • Effective Communication and Interpersonal Skills   | 1 - 3             | 1.5  | 1.0    | 1.0  |
| • Natural Leadership Ability   | 1 - 3             | 1.9  | 2.0    | 2.0  |
| • Technical Proficiency  | 1 - 4             | 2.9  | 3.0    | 3.0  |
| • Years of Experience  | 3 - 5             | 4.1  | 4.0    | 4.0  |
| • Formal Leadership Training   | 3 - 5             | 4.6  | 5.0    | 5.0  |

**Level 3 Responses.** Participant responses at level 3 exhibited some variation from the aggregated responses. Natural leadership ability ranked slightly higher among level 3 participants compared with the aggregated responses, with mean values of 2.3 for the aggregated responses, and 1.9 for level 3 responses. Technical proficiency ranked slightly lower among level 3 participants compared with the aggregated responses, with mean values of 3.2 for the aggregated responses, and 3.6 for level 3 responses. Years of experience also ranked lower, with mean values of 3.9 for aggregated responses, and 4.2 for level 3 responses. In contrast with the aggregated responses, years of experience ranked as the least important factor among level 3 participants, only slightly lower than formal leadership training. Mean, median and mode values for these two factors at level

3 were consistent with this ranking. The range, mean, median, and mode of level 3 participants' responses to survey question 7 are shown in Table C-28.

**Table C-28. SQ-7 – Factors Contributing to Effective Leadership (Level 3)**

| From your perspective, rate the following in order of their importance to being an effective leader (1 = most to 5 = least): | Level 3 Responses |      |        |      |
|--|-------------------|------|--------|------|
|  | Range             | Mean | Median | Mode |
| • Effective Communication and Interpersonal Skills   | 1 - 2             | 1.3  | 1.0    | 1.0  |
| • Natural Leadership Ability   | 1 - 4             | 1.9  | 2.0    | 2.0  |
| • Technical Proficiency  | 2 - 5             | 3.6  | 3.5    | 3.0  |
| • Years of Experience  | 3 - 5             | 4.2  | 4.5    | 5.0  |
| • Formal Leadership Training   | 3 - 5             | 4.0  | 4.0    | 4.0  |

**Level 4 Responses.** The mean, median and mode of participant responses for level 4 were comparable to the aggregated responses for all five factors. The ranking of the five factors, however, was not as decisive for level 4 compared with the level 2 and aggregated responses, as indicated by the mean values for technical proficiency, years of experience, and formal leadership training. The mean values for years of experience and formal leadership training were the same at 3.9, although their respective median and mode values supported ranking years of experience slightly more important than formal leadership training. The range, mean, median, and mode of level 4 participants' responses to SQ-7 are shown in Table C-29.

**Table C-29. SQ-7 – Factors Contributing to Effective Leadership (Level 4)**

| From your perspective, rate the following in order of their importance to being an effective leader (1 = most to 5 = least): | Level 4 Responses |      |        |      |
|--|-------------------|------|--------|------|
|  | Range             | Mean | Median | Mode |
| • <b>Effective Communication and Interpersonal Skills</b>  | 1 - 3             | 1.5  | 1.0    | 1.0  |
| • <b>Natural Leadership Ability</b>  | 1 - 4             | 2.3  | 2.0    | 2.0  |
| • <b>Technical Proficiency</b>   | 2 - 5             | 3.4  | 3.0    | 3.0  |
| • <b>Years of Experience</b>   | 1 - 5             | 3.9  | 4.0    | 4.0  |
| • <b>Formal Leadership Training</b>  | 2 - 5             | 3.9  | 4.5    | 5.0  |

**Level 5 Responses.** Participant responses at level 5 exhibited the most significant variation from the aggregated responses. Effective communication and interpersonal skills ranked as the most important factor with a mean value of 1.6 for participant responses. Mean values among the remaining four factors exhibited a high of 2.9 for technical proficiency, to a low of 3.9 for formal leadership training. This narrow grouping of mean values was also evident in their respective median values. Median values were the same for natural leadership ability and technical proficiency at 3.0, and for years of experience and formal leadership training at 4.0. Despite the narrow groupings of mean and median values, the mode values supported the same relative ranking of the five factors as exhibited in the aggregated rankings. The range, mean, median, and mode of level 5 participants' responses to SQ-7 are shown in Table C-30.

**Table C-30. SQ-7 – Factors Contributing to Effective Leadership (Level 5)**

| From your perspective, rate the following in order of their importance to being an effective leader (1 = most to 5 = least): | Level 5 Responses |      |        |      |
|--|-------------------|------|--------|------|
|  | Range             | Mean | Median | Mode |
| • <b>Effective Communication and Interpersonal Skills</b>  | 1 - 3             | 1.6  | 1.0    | 1.0  |
| • <b>Natural Leadership Ability</b>  | 1 - 5             | 3.1  | 3.0    | 2.0  |
| • <b>Technical Proficiency</b>   | 1 - 5             | 2.9  | 3.0    | 3.0  |
| • <b>Years of Experience</b>   | 1 - 5             | 3.5  | 4.0    | 4.0  |
| • <b>Formal Leadership Training</b>  | 2 - 5             | 3.9  | 4.0    | 5.0  |

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